



Barrier-Free[®] Examination Table

Model Numbers:

222 -001 thru -017

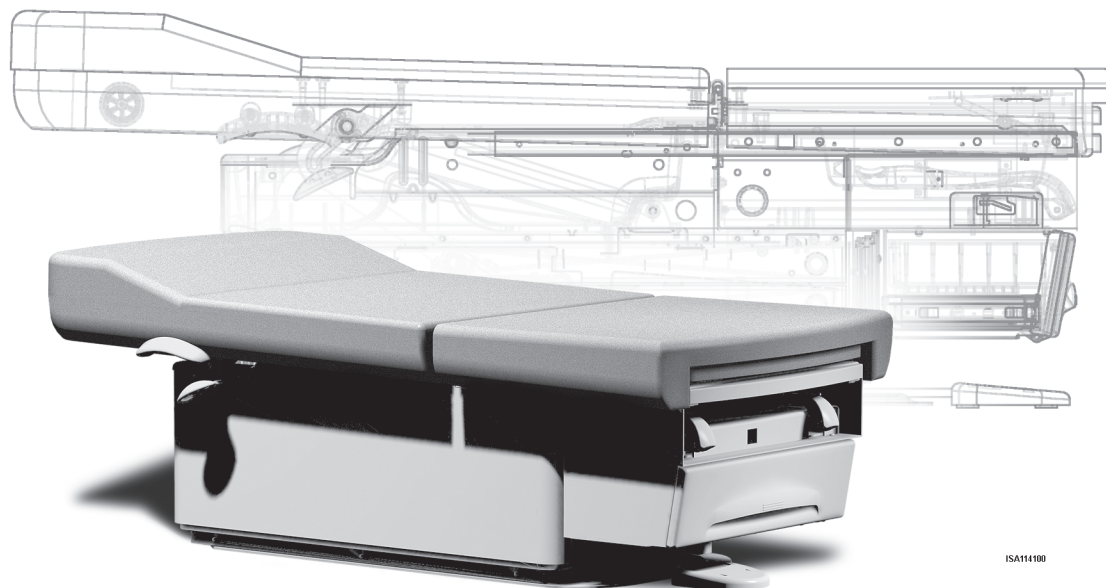
223 -001 thru -016

622 -001 thru -008

623 -001 thru -011

*Some Models NO LONGER IN PRODUCTION
Some service parts may not be available for this product!*

Service and Parts Manual



FOR USE BY MIDMARK TRAINED TECHNICIANS ONLY

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Section A

OPERATION & TROUBLESHOOTING

Attention!

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* Indicates multiple pages due to model / serial number break(s)

Symbols



Caution

Indicates a potentially hazardous situation which could result in injury if not avoided.



Equipment Alert

Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note

Amplifies a procedure, practice, or condition.



In Section A, test the components in the order indicated. (ex. **1st** ✓ then, **2nd** ✓)

Refer to Section B for component testing procedures.

These symbols are used throughout this manual to represent the operational status of table functions and components.



Indicates the function / component is working properly. No action required.



Indicates the function / component is working, but a problem exists.



Indicates the function / component is not working at all.

Ordering Parts

The following information is required when ordering parts:

- Serial number & model number
- Part number for desired part.

[Refer to Exploded Views / Parts Lists section]

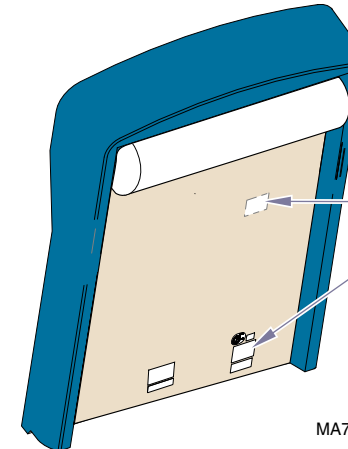
Non-warranty part orders may be faxed to Midmark using the Fax Order Form in the back of this manual.

For warranty part orders, call Midmark's Technical Service Department with the required information.

Hours: 8:00 am until 5:00 pm EST [Monday - Friday]

Phone: 1-(800)-Midmark

Serial Number Location



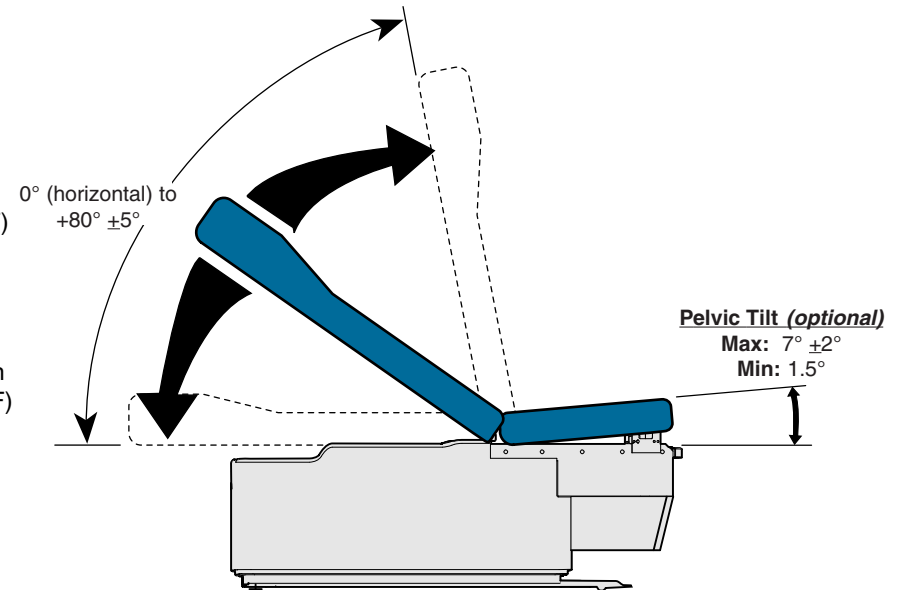
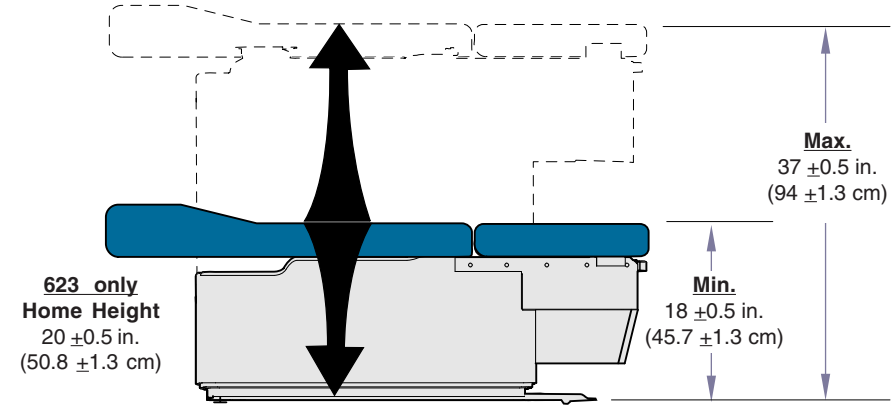
**Serial / Model
Number Label**
(exact location may vary)

MA731100i

General Information

Specifications

Patient Weight (maximum)	400 lbs (181.4 kgs)
Paper Roll (maximum size):	21 in. long x 3.5 in. diameter (53.3 x 8.9 cm)
Export models	19.7 in. long x 4.7 in. diameter (50 cm x 12 cm)
Range of Motion	See illustration on this page
Dimensions	See illustration on next page
Weight of Table: [230 VAC models <u>only</u> : 230 V transformer adds 14.5 lbs (6.5 kg)]	
w/ upholstery	325 lbs (147.4 kg)
w/packaging & skid (no upholstery)	375 lbs (192.7 kg)
Weight of Upholstery: w/packaging (shipped separately)	40 lbs (18.1 kg)
Power Cord(s) [115V models have two cords]:	8 ft. (243.8 cm) long
Electrical Rating:	See Compliance Charts
Foot Control Voltage:	14 VAC, SELV (Safety Extra Low Voltage)
Duplex Receptacle maximum load:	115 VAC, 5A
Fuses:	Refer to: Section E - Fuses
Duty Cycle: Actuator motor run time:	Intermittent Operation (Domestic: 30 seconds ON / 5 minutes OFF) (Export: 25 seconds ON / 7 minutes OFF)
Receptacle / Drawer Heater / Uph. Htr:	Continuous Operation
Classifications:	Class I, Type B Applied Part, Ordinary Equipment, Intermittent Operation (Domestic: 30 seconds ON / 5 minutes OFF) (Export: 25 seconds ON / 7 minutes OFF)
Protection against ingress of fluids:	IPX0 [Foot Control <u>only</u> : IPX1]
Regulatory Compliance:	See Regulatory Compliance Charts
Table Speeds (by function): Base	14 - 26 seconds
Back (models w/power back)	15 - 20 seconds



MA5998011

Model Identification / Compliance Chart - 222

Model	Description	Serial Number Prefix	Complies To:						Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	UL 544	EN 60601-1	EN 60601-1-2 (EMC)	CE	VAC +/- 10%	Amps	Cycles (Hz)
222-001	Ritter Basic Table (Standard Top)	RG,V	X	X		X	X	X	115	5.5	50/60
222-002	Ritter Basic Table w/ Receptacle (Standard Top)	RH,V			X		X	X	115	10.5	50/60
222-003	Ritter Basic Table w/ Drawer Heater, Pelvic Tilt (Standard Top)	RJ,V	X	X		X	X	X	115	6	50/60
222-004	Ritter Basic Table w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	RK,V			X		X	X	115	11	50/60
222-005	Ritter Basic Table (Seamless Top)	RG,V	X	X		X	X	X	115	5.5	50/60
222-006	Ritter Basic Table w/ Receptacle, (Seamless Top)	RH,V			X		X	X	115	10.5	50/60
222-007	Ritter Basic Table w/ Drawer Heater, Pelvic Tilt (Seamless Top)	RJ,V	X	X		X	X	X	115	6	50/60
222-008	Ritter Basic Table w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	RK,V			X		X	X	115	11	50/60
222-009	Ritter Basic Export Table w/Pelvic Tilt (Seamless Top)	RL,V				X	X	X	230	2.75	50/60
222-010	Ritter Basic Export Table w/ Pelvic Tilt, Drawer Heater (SeamlessTop)	RM,V				X	X	X	230	3	50/60
222-011	Ritter Basic Table (Canada) w/Receptacle (Standard Top)	V		X			X	X	115	10.5	50/60
222-012	Ritter Basic Table (Canada) w/Receptacle, Pelvic Tilt, Drawer Heater (Standard Top)	V		X			X	X	115	11	50/60
222-013	Ritter Basic Table (Canada) w/Receptacle (SeamlessTop)	V		X			X	X	115	10.5	50/60
222-014	Ritter Basic Table (Canada) w/Receptacle, Pelvic Tilt, Drawer Heater (Seamless Top)	V		X			X	X	115	11	50/60
222-015	Ritter Basic Table w/ Receptacle	V	X	X		X	X	X	115	10.5	50/60
222-016	Ritter Basic Table w/ Receptacle, Pelvic Tilt, Drawer Heater	V	X	X		X	X		115	11	50/60
222-017	Ritter Basic Table - Export w/ Pelvic Tilt	V	X	X		X	X	X	230	2.75	50/60

Fire Code Ratings:

All upholstery complies with California Bureau of Home Furnishing [Technical Bulletin 117](#).

Optional upholstery is available that complies with California Bureau of Home Furnishing [Technical Bulletin 133](#).

General Information

Model Identification / Compliance Chart - 223

Model	Description	Serial Number Prefix	Complies To:						Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	UL 544	EN 60601-1	EN 60601-1-2 (EMC)	CE	VAC +/- 10%	Amps	Cycles (Hz)
223-001	Ritter Power Back Table (Standard Top)	SC, V	X	X		X	X	X	115	7	50/60
223-002	Ritter Power Back Table w/ Receptacle (Standard Top)	SD, V			X		X	X	115	12	50/60
223-003	Ritter Power Back Table w/ Drawer Heater, Pelvic Tilt (Standard Top)	SE, V	X	X		X	X	X	115	7.5	50/60
223-004	Ritter Power Back Table w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	SF, V			X		X	X	115	12.5	50/60
223-005	Ritter Power Back Table (Seamless Top)	SC, V	X	X		X	X	X	115	7	50/60
223-006	Ritter Power Back Table w/ Receptacle (Seamless Top)	SD, V			X		X	X	115	12	50/60
223-007	Ritter Power Back Table w/ Drawer Heater, Pelvic Tilt (Seamless Top)	SE, V	X	X		X	X	X	115	7.5	50/60
223-008	Ritter Power Back Table w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	SF, V			X		X	X	115	12.5	50/60
223-009	Ritter Power Back Export Table w/ Pelvic Tilt (Seamless Top)	SG, V				X	X	X	230	3.75	50/60
223-010	Ritter Power Back Export Table w/ Pelvic Tilt, Drawer Heater (Seamless Top)	SH, V				X	X	X	230	4	50/60
223-011	Ritter Power Back Table (Canada) w/ Receptacle (Standard Top)	V		X			X	X	115	12	50/60
223-012	Ritter Power Back Table (Canada) w/ Receptacle, Pelvic Tilt Drawer Heater, (Standard Top)	V		X			X	X	115	12.5	50/60
223-013	Ritter Power Back Table (Canada) w/ Receptacle (Seamless Top)	V		X			X	X	115	12	50/60
223-014	Ritter Power Back Table (Canada) w/ Receptacle, Pelvic Tilt Drawer Heater, (Seamless Top)	V		X			X	X	115	12.5	50/60
223-015	Ritter Power Back Table w/ Receptacle	V	X	X		X	X	X	115	12	50/60
223-016	Ritter Power Back Table w/ Receptacle, Pelvic Tilt, Drawer Heater	V	X	X		X	X		115	12.5	50/60

Fire Code Ratings:

All upholstery complies with California Bureau of Home Furnishing [Technical Bulletin 117](#).

Optional upholstery is available that complies with California Bureau of Home Furnishing [Technical Bulletin 133](#).

General Information

Model Identification / Compliance Chart - 622 / 623

Model	Description	Serial Number Prefix	Complies To:						Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	UL 544	EN 60601-1	EN 60601-1-2 (EMC)	CE	VAC +/- 10%	Amps	Cycles (Hz)
622-001	Midmark Manual Back Table w/ Receptacle	SJ, V			X		X	X	115	10.5	50/60
622-002	Midmark Manual Back Table w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Upholstery	SK, V			X		X	X	115	11.5	50/60
622-003	Midmark Manual Back Table w/ Pelvic Tilt	SN, V	X	X		X	X	X	230	2.75	50/60
622-004	Midmark Manual Back Table w/ Drawer Heater, Pelvic Tilt, & Heated Upholstery	SP, V	X	X		X	X	X	230	3.25	50/60
622-005	Midmark Manual Back Table (Canada) w/ Receptacle	V		X			X	X	115	10.5	50/60
622-006	Midmark Manual Back Table (Canada) w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Upholstery	V		X			X	X	115	11.5	50/60
622-007	Midmark Manual Back Table w/ Receptacle	V	X	X		X	X	X	115	10.5	50/60
622-008	Midmark Manual Back Table w/ Receptacle, Drawer Heater, Pelvic Tilt, & Heated Upholstery	V	X	X		X	X	X	115	11.5	50/60
623-001	Midmark Power Back Table w/ Receptacle	SL, V			X		X	X	115	12.5	50/60
623-002	Midmark Power Back Table w/ Receptacle, Pelvic Tilt, Drawer Heater, & Heated Upholstery	SM, V			X		X	X	115	13.5	50/60
623-003	Midmark Power Back Table w/ Pelvic Tilt	SR, V	X	X			X	X	230	3.75	50/60
623-004	Midmark Power Back Table w/ Pelvic Tilt, Drawer Heater, & Heated Upholstery	SS, V	X	X			X	X	230	4.25	50/60
623-005	Midmark Power Back Table (Canada) w/ Receptacle	V		X			X	X	115	12.5	50/60
623-006	Ritter Power Back Table (Canada) w/ Receptacle, Pelvic Tilt, Drawer Heater, Heated Upholstery	V		X			X	X	115	13.5	50/60
623-007	Midmark Power Back Table w/ Receptacle	V	X	X		X	X	X	115	12.5	50/60
623-008	Midmark Power Back Table w/ Receptacle, Pelvic Tilt, Drawer Heater, & Heated Upholstery	V	X	X		X	X		115	13.5	50/60
623-009	Midmark Power Back Table - Export w/ Pelvic Tilt	V	X	X		X	X	X	230	3.75	50/60
623-010	Midmark Power Back Table - Export w/ Pelvic Tilt, Drawer Heater, & Heated Upholstery	V	X	X		X	X		230	4.25	50/60
623-011	Midmark Power Back Table - Export w/ Pelvic Tilt, & Drawer Heater	V	X	X		X	X	X	230	4.0	50/60

Fire Code Ratings:

All upholstery complies with California Bureau of Home Furnishing [Technical Bulletin 117](#).

Optional upholstery is available that complies with California Bureau of Home Furnishing [Technical Bulletin 133](#).

General Information

Scheduled Maintenance / Barrier-Free [®] Examination Table						
Interval	Inspection or Service	Service, Adjust , Repair and / or Replace as Required (Refer to appropriate S&P or Quick Reference Guide)	222	223	622	623
Weekly	Cleaning	Clean upholstery with diluted bleach solution. 10:1 (water:bleach)	X	X	X	X
		Wipe painted metal & plastic surfaces with a clean soft cloth and mild cleaner. (NOTE: Periodic application of common furniture wax will ease cleaning, and maintain the luster of the surfaces).	X	X	X	X
	Obvious Damage	Visually inspect components for damage that could cause problems during operation or unsafe operation.	X	X	X	X
Semi-Annually	Mechanical Operation	Check all mechanical functions using the foot control. Repeat using the hand control when present.	X	X	X	X
		Check manual back release mechanism for proper operation.	X	X	X	X
		Table shrouds should move smoothly & quietly when base is raised & lowered. (NOTE: There are plastic glides on the shroud tabs. Missing glides may result in noisy operation.)	X	X	X	X
	Labels / Decals	Replace any missing or illegible labels.	X	X	X	X
	Lubricate	Lubricate back hinge with light machine oil.	X	X	X	X
		Lubricate footrest slide with household furniture wax.	X	X	X	X
	Hardware	All fasteners must be present and fastened securely.	X	X	X	X
	Electrical System	Inspect power cord and all wiring for damage.	X	X	X	X
		Be sure all electrical connections are tight.	X	X	X	X
	Stirrups	Check that stirrups extend easily, and lock securely into each lateral position.	X	X	X	X
Date of Service: ____/____/____			Model:			
Location: Service Technician:			Serial Number:			

Troubleshooting

Table Function

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Base Up / Down	A-2
Back Up / Down	A-11
Drawer Heater	A-23
Table Receptacle	A-27
Auto Return	A-29
Upholstery Heater System	A-32

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitive. ex. A-2)



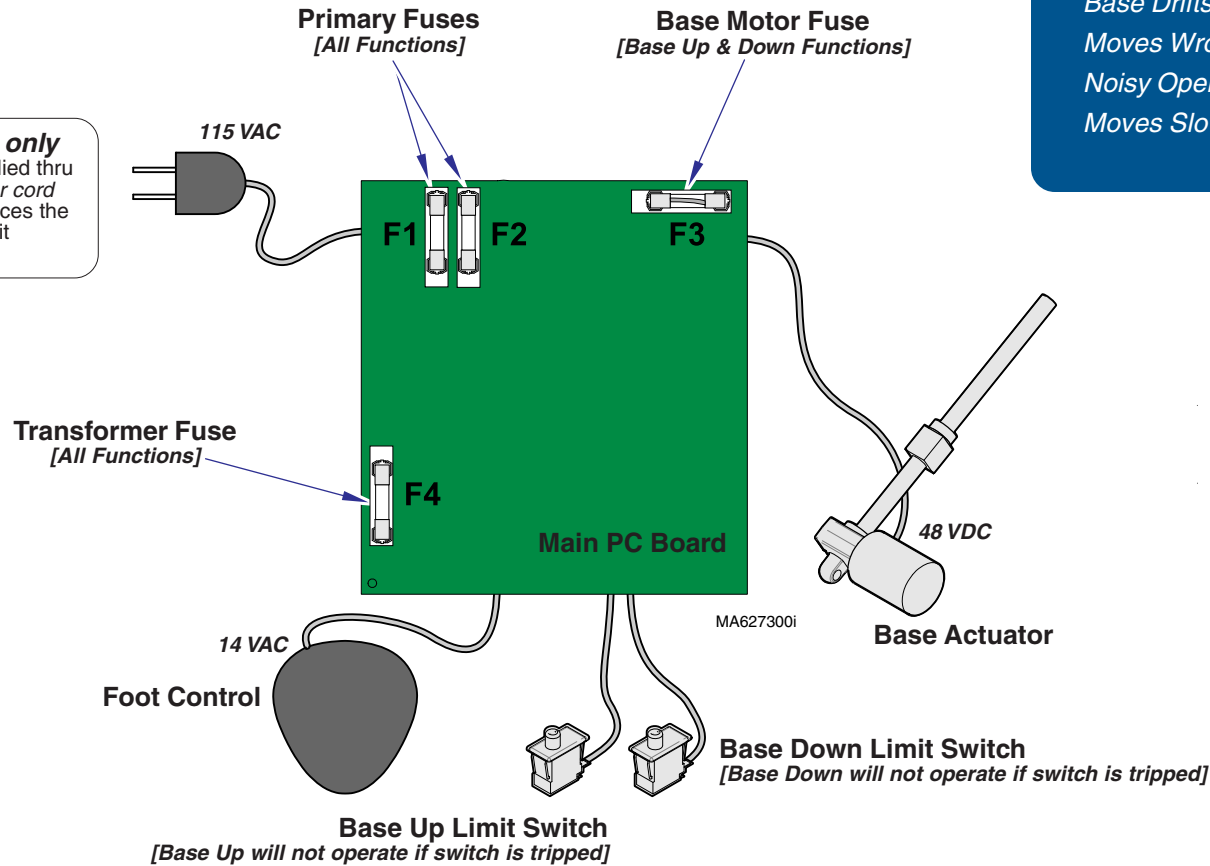
Section A

Troubleshooting

Base UP / DOWN Function

This illustration shows only the components that affect the Base UP / DOWN function.
Refer to the following page for a detailed description of current flow during this function.

NOTE: 230 VAC models only
Line voltage (230 VAC) is supplied thru two fuses (located by the power cord inlet) to a transformer that reduces the line voltage to 115 VAC before it reaches the PC Board.



Troubleshooting

[Base Up / Down Function]

Problem

Go To Page:

No UP or DOWN Functions	A-4
No UP Function (DOWN - OK)	A-5
No DOWN Function (UP - OK)	A-6
Base Drifts Down	A-7
Moves Wrong Direction	A-8
Noisy Operation	A-9
Moves Slowly	A-10

Base UP / DOWN Function

NOTE

On 230 VAC models, line voltage (230 VAC) is supplied thru two fuses (located by IEC inlet) to a transformer that reduces the line voltage to 115 VAC before it gets to the PC board.

Power To Foot Control

115 VAC is supplied thru the two primary fuses (F1 & F2) to the transformer on the PC board. [F4 fuse protects the transformer].

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Base Up Operation

NOTE

If the Base Up limit switch is tripped (open), the Base Up function will not operate.

When the Base Up function is activated, current (14 VAC) flows thru the Up function foot switch (N.O), then back to the PC board. Circuitry on the PC Board energizes the base relay. [F3 fuse protects the base motor].

NOTE

The Base Up/Down relay has four contacts:
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When the base relay is energized, the (2) Normally Open contacts of the relay close. When these contacts close, current (48 VDC) flows to the actuator motor.

When current flows to the actuator thru the Normally Open contacts of the relay, the actuator motor runs and raises the table.

Actuator Motor runs until:

1. Foot control pedal is released.
2. Base Up limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).

[Primary, Base Motor, Transformer fuse]

Base Down Operation

NOTE

If the Base Down limit switch is tripped (open), the Base Down function will not operate.

When the Base Down function is activated, current (14 VAC) flows thru the Down function foot switch (N.O.), then back to the PC Board.

NOTE

The Base Up/Down relay has four contacts:
(2) Normally Open: Base Up function
(2) Normally Closed: Base Down function

When this voltage is applied, current (48 VDC) flows to the actuator motor thru the (2) Normally Closed contacts of the Base Up/Down relay. [The relay does not energize].

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs and lowers the table.

Actuator Motor runs until:

1. Foot control pedal is released.
2. Base Down limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).

[Primary, Base Motor, Transformer fuse]



Equipment Alert

If an overload condition* is detected the PC board will "beep" and all power functions will be disabled. Release the function button, remove load, then retry function.

*(weight limit exceeded, mechanical binding, etc),

Troubleshooting

Refer To:

Go To Page:

Fuses B-2

Limit Switches B-4

Foot Control B-6

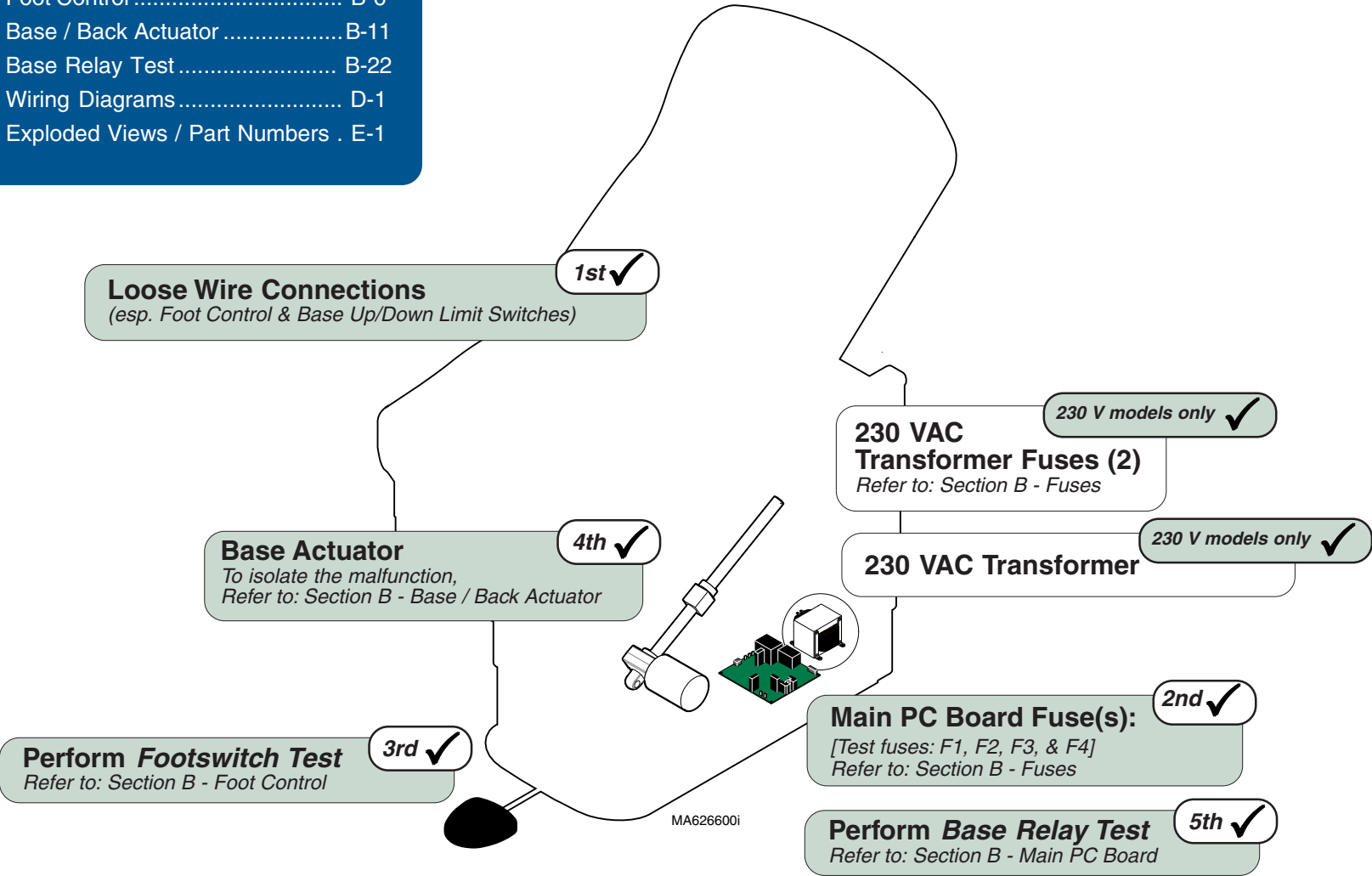
Base / Back Actuator B-11

Base Relay Test B-22

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

Function	Status	Problem
Base Up		No movement
Base Down		No movement



Function	Status	Problem
Base Up		No movement
Base Down		OK

Refer To:

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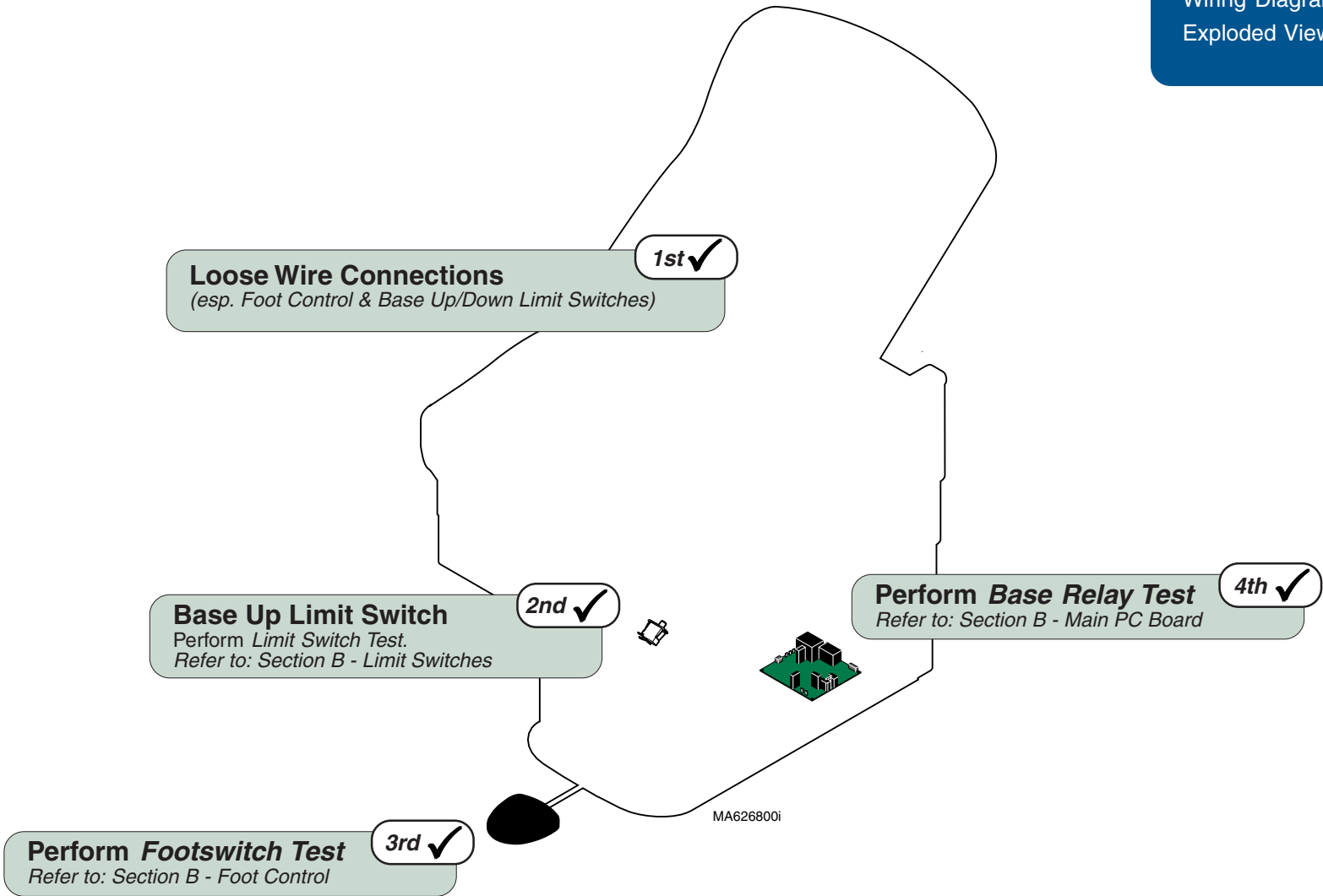
Limit Switches B-4

Footswitch Test B-6

Base Relay Test B-22

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1



Troubleshooting

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Limit Switches B-4

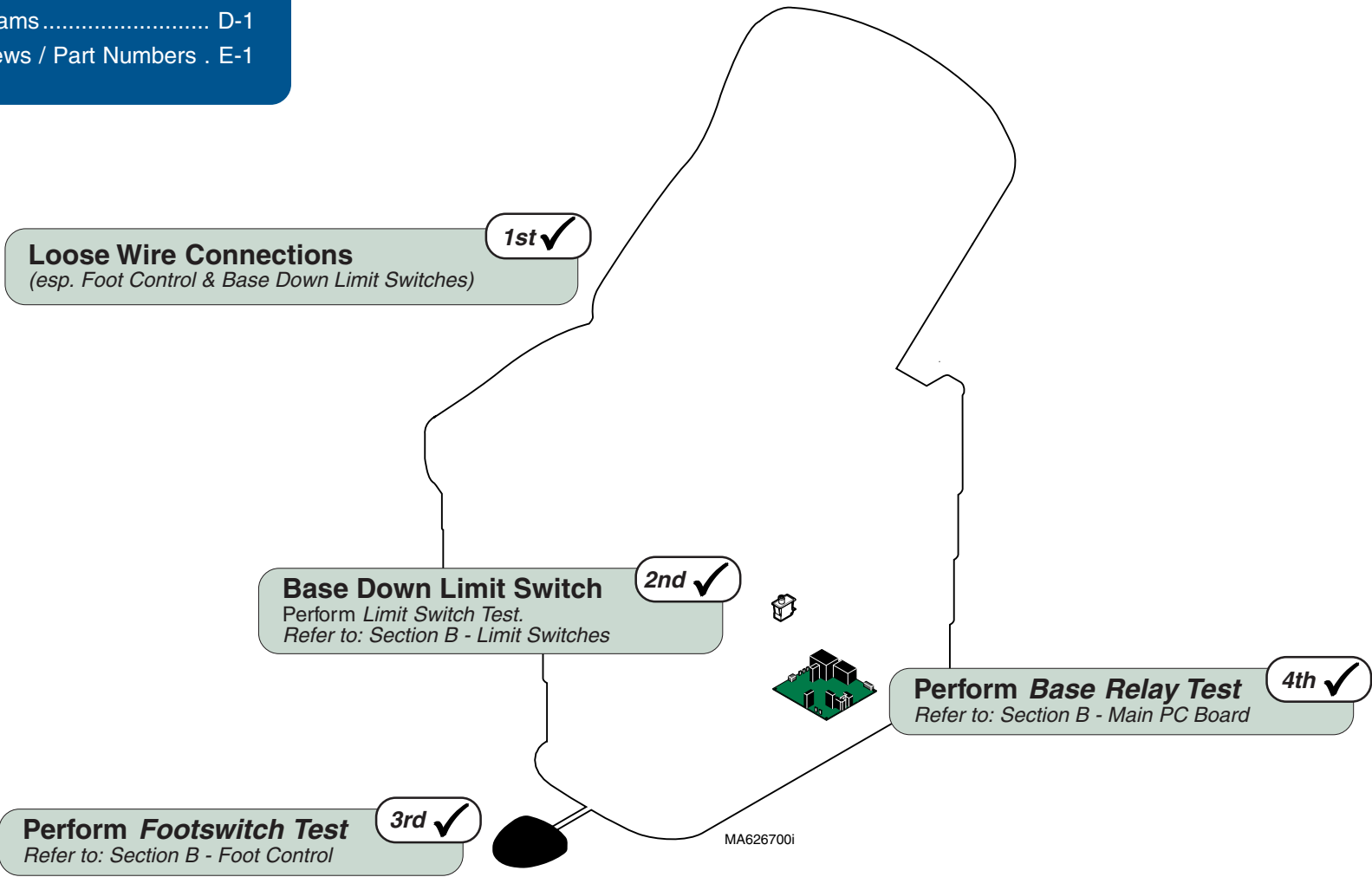
Foot Control B-6

Base Relay Test B-22

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

Function	Status	Problem
Base Up		OK
Base Down		No movement



Function	Status	Problem
Base Up		Table drifts down.
Base Down		Table drifts down.

Refer To:

Go To Page:

Foot Control B-6

Base / Back Actuator B-11

Wiring Diagrams D-1

Exploded Views / Part Numbers E-1

Run table up, then unplug power cord. 1st ✓
If drifting stops, perform *Footswitch Test*.
If drifting continues, check Base Actuator.

Perform Footswitch Test ✓
Refer to: Section B - Foot Control

Base Actuator ✓
To isolate the malfunction,
Refer to: Section B - Base / Back Actuator

Troubleshooting

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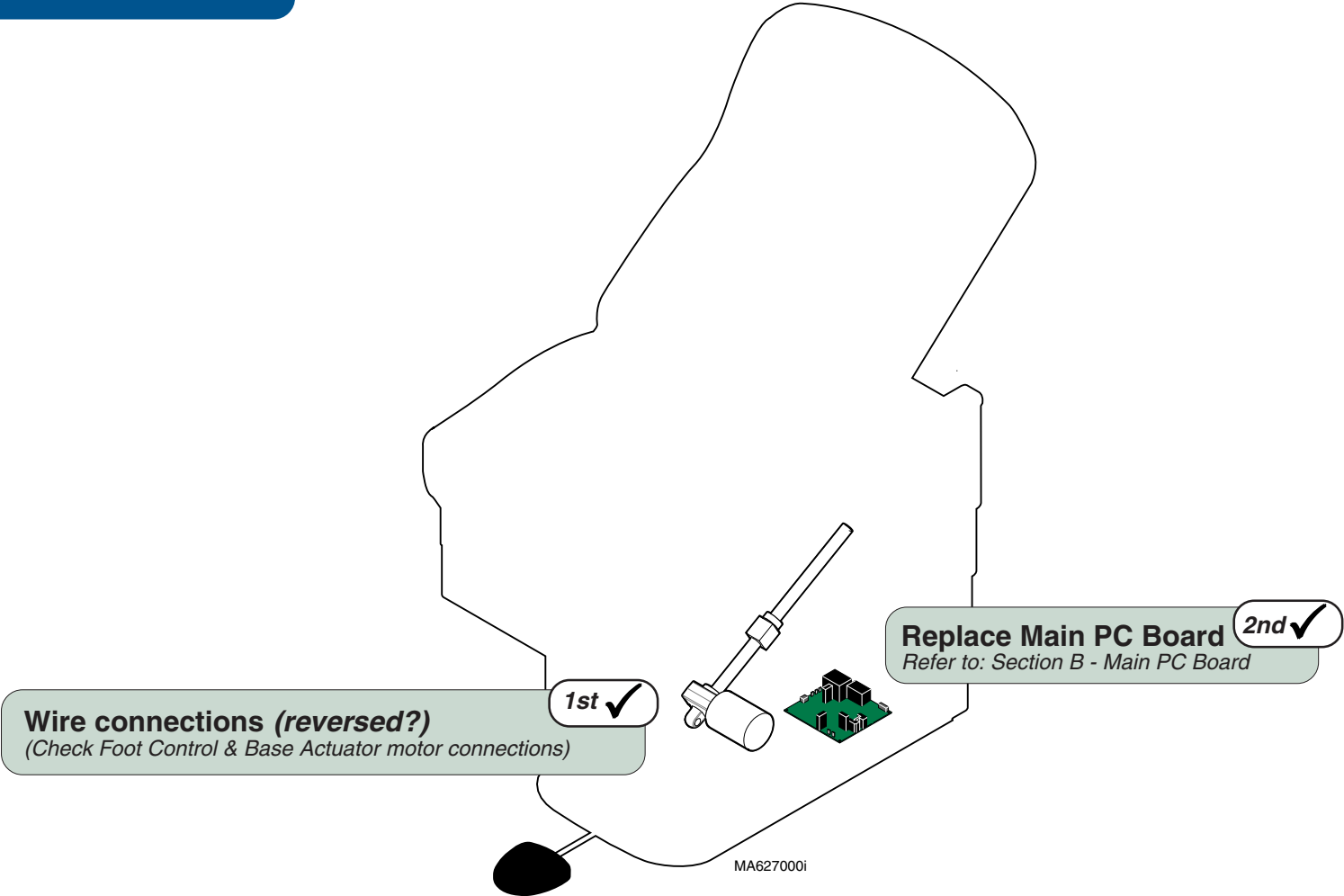
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Main PC Board Replacement B-24

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

Function	Status	Problem
Base Up		Press Base UP pedal, table moves DOWN.
Base Down		Press Base DOWN pedal, table moves UP.



Troubleshooting

Function	Status	Problem
Base Up		Noisy / grinding / squeaking
Base Down		Noisy / grinding / squeaking

Refer To:

Base Actuator Replacement B-13
 Table Shroud Removal C-2
 Wiring Diagrams D-1
 Exploded Views / Part Numbers . E-1

Go To Page:

Clean and lubricate base actuator threads. 1st ✓

Recommended lubricant: Lithium grease
 If necessary, refer to: *Section C - Table Shroud Removal*

Replace Base Actuator 3rd ✓

Refer to: *Section B - Base / Back Actuator*

Remove any debris from base slides. 2nd ✓

Do not lubricate base slides.
 If necessary, refer to: *Section C - Table Shroud Removal*

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Models:
 Serial Numbers:

All
 All

Base Up / Down

Troubleshooting

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Refer To:

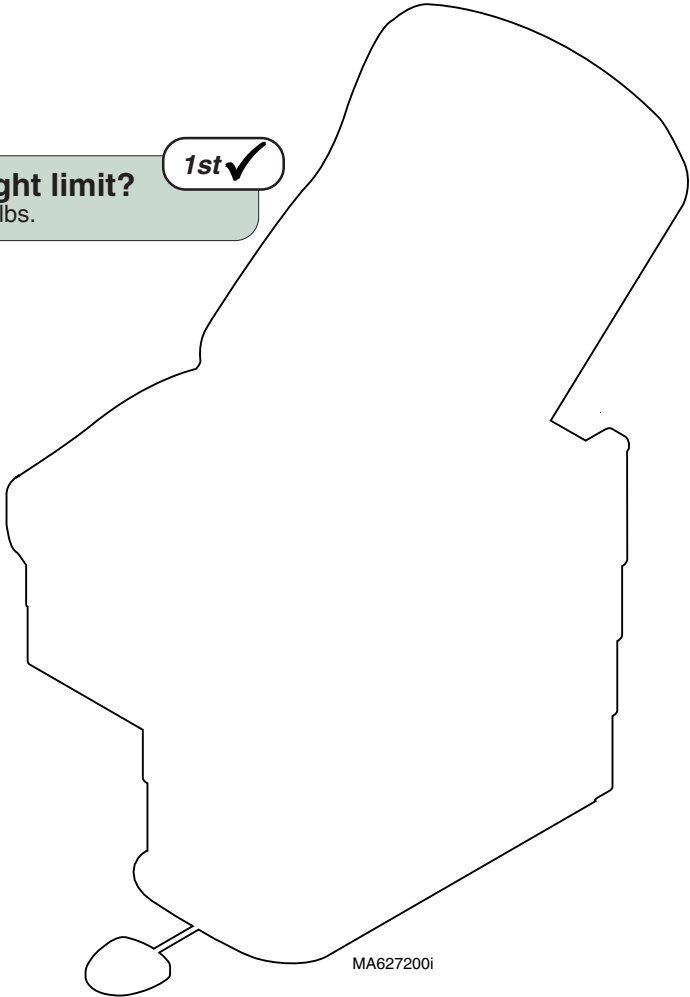
Go To Page:

Wiring Diagrams D-1

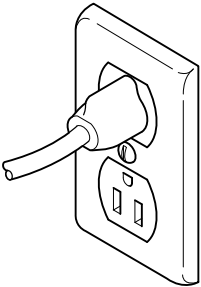
Exploded Views / Part Numbers .. E-1

Function	Status	Problem
Base Up		Moves slowly
Base Down		Moves slowly

1st ✓
Did patient exceed 400 lb. weight limit?
Inform staff that max. patient weight is 400 lbs.



2nd ✓
Low voltage to table
Required voltage:
115 VAC models 115 ±10% VAC
230 VAC models 230 ±10% VAC

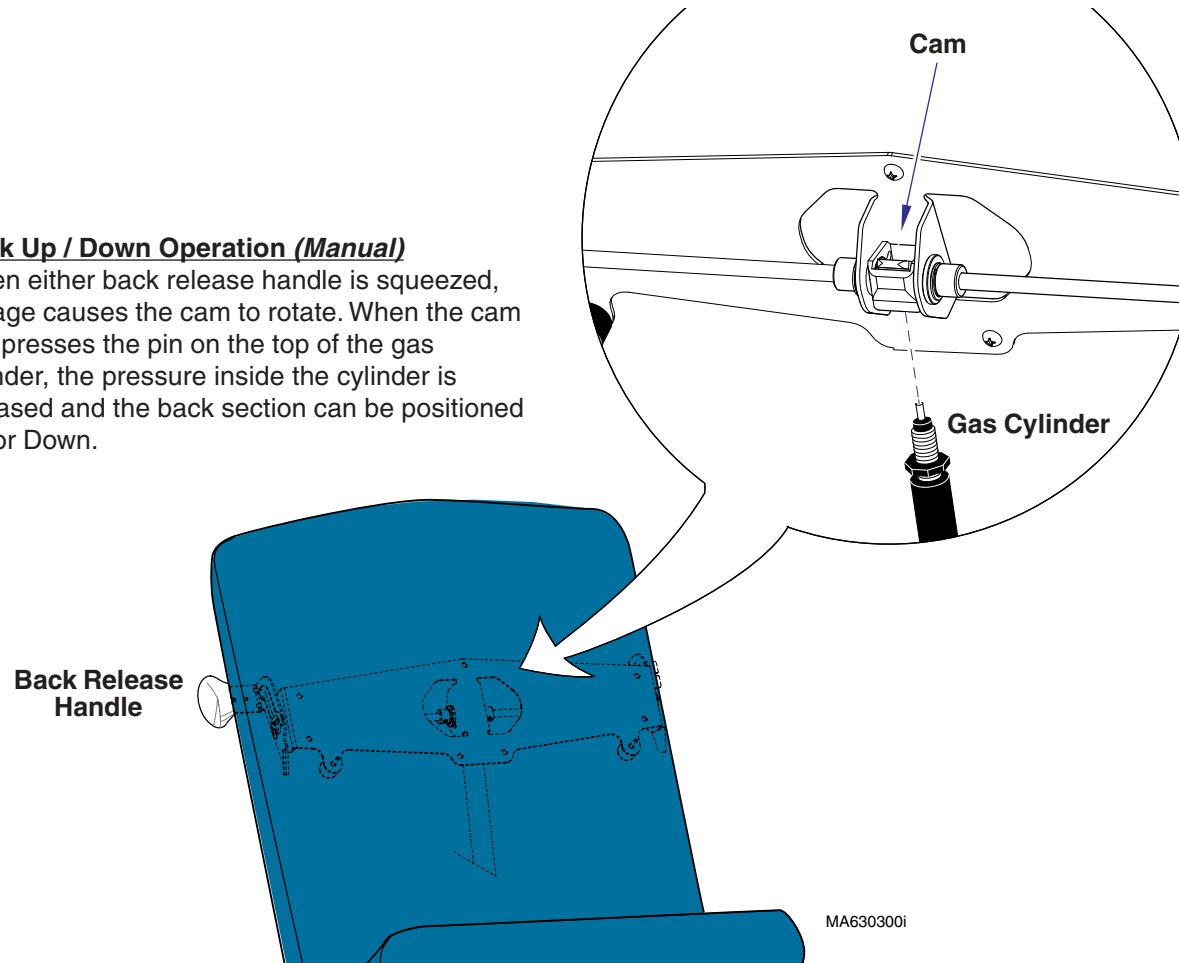


Back UP / DOWN Function (Manual)

This illustration shows only the components that affect the Back UP / DOWN function.

Back Up / Down Operation (Manual)

When either back release handle is squeezed, linkage causes the cam to rotate. When the cam compresses the pin on the top of the gas cylinder, the pressure inside the cylinder is released and the back section can be positioned Up or Down.



Troubleshooting

[Back Up / Down Function (Manual)]

Problem

Go To Page:

Back Drifts Up or Down A-12

No Movement A-13

Difficult To Position A-13

Models:
Serial Numbers:

222 (all)
All

622 (all)
All

Back Up / Down
Manual

Troubleshooting

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Function

Status

Problem

Back Up/Down



Back section drifts

Refer To:

Back Release Handle

Adjustment B-17

Gas Cylinder

Replacement & Adjustment.... B-18

Exploded Views / Part Numbers .. E-1

Go To Page:

Gas cylinder screwed in too far.

*Perform Gas Cylinder Adjustment
Refer to: Section B - Back Release Mechanism*

1st ✓

**Perform Back Release
Handle Adjustment**

Refer to: Section B - Back Release Mechanism

2nd ✓

Replace Gas Cylinder

Refer to: Section B - Back Release Mechanism

3rd ✓

MA630400i

Function	Status	Problem
Back Up/Down		No movement
		Difficult to position

Refer To:

Go To Page:

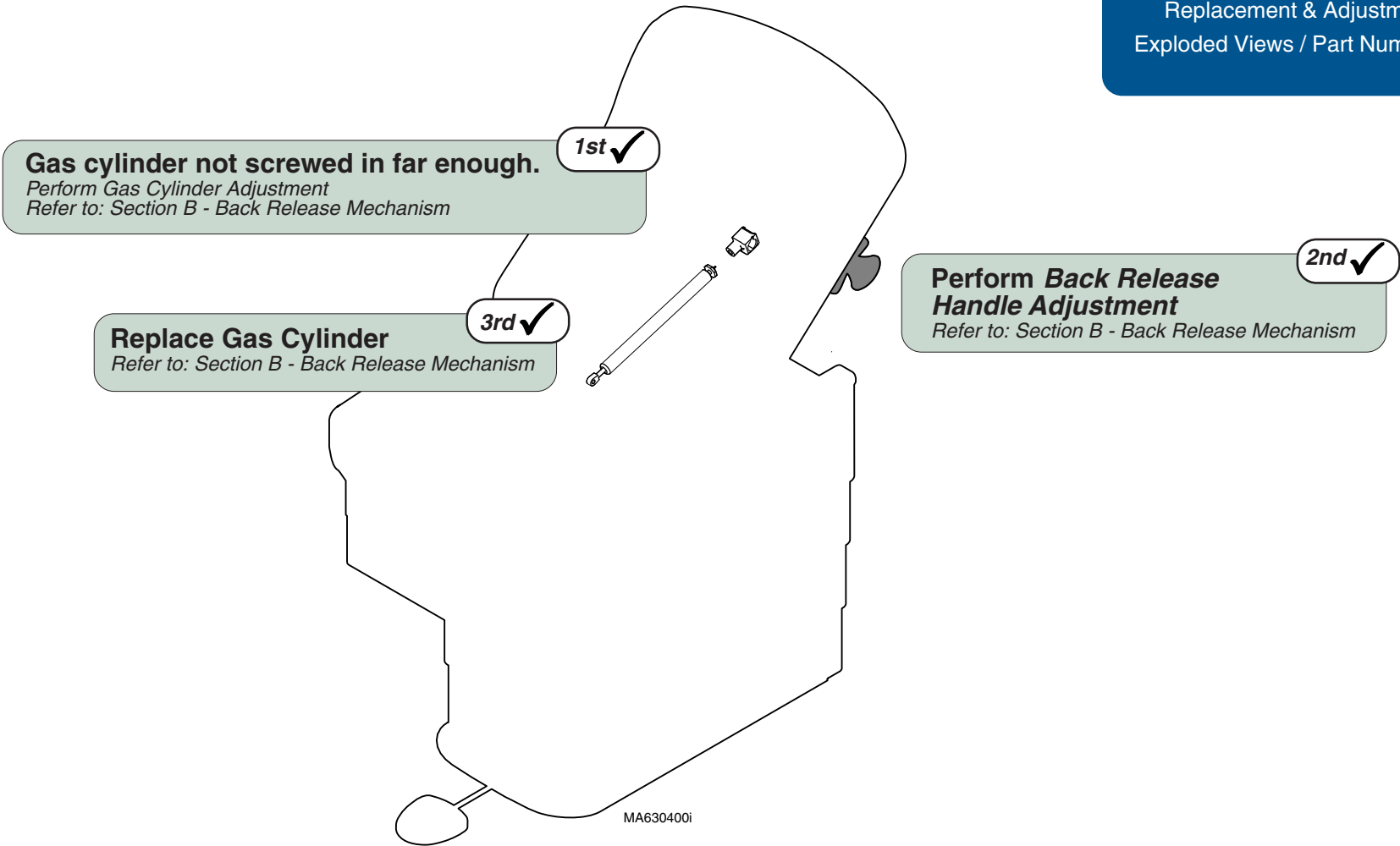
Back Release Handle

Adjustment B-17

Gas Cylinder

Replacement & Adjustment B-18

Exploded Views / Part Numbers .. E-1

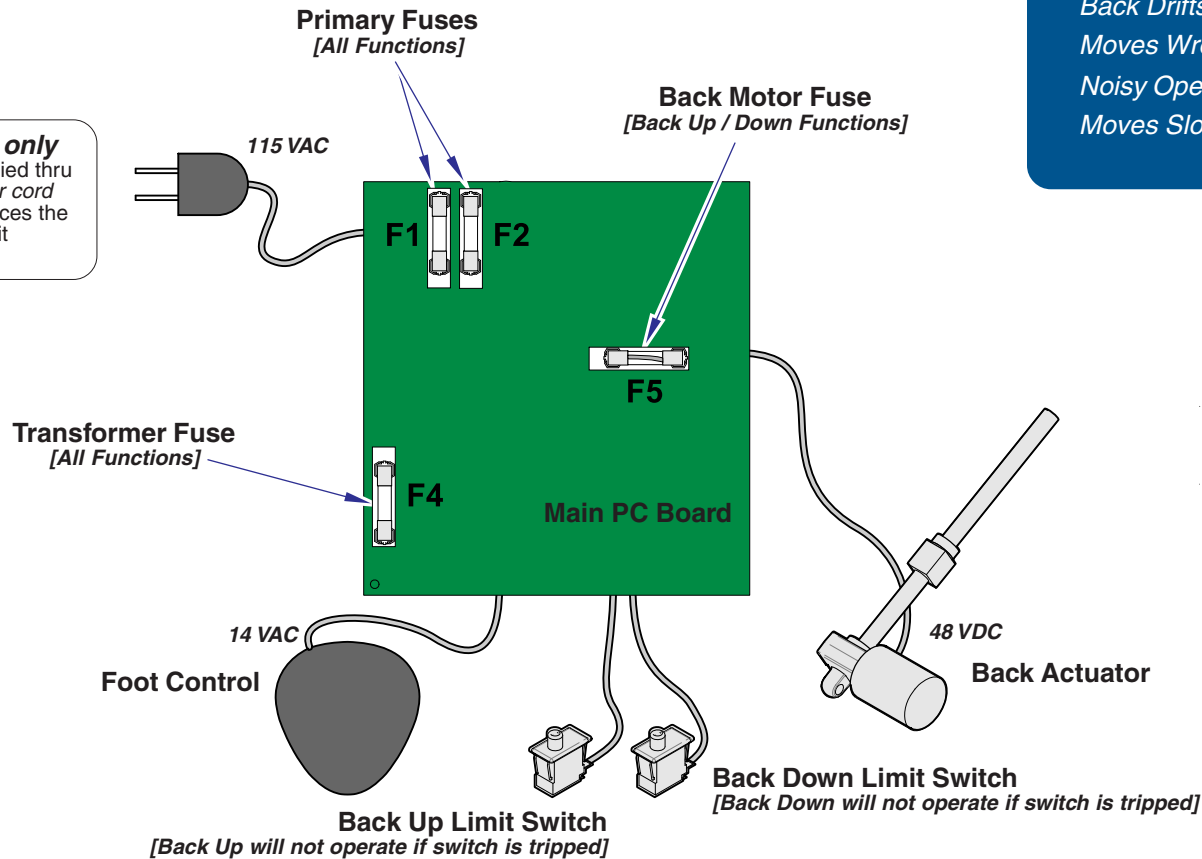


Troubleshooting

Back UP / DOWN Function (Power)

This illustration shows only the components that affect the Back UP / DOWN function.
Refer to the following page for a detailed description of current flow during this function.

NOTE: 230 VAC models only
Line voltage (230 VAC) is supplied thru two fuses (located by the power cord inlet) to a transformer that reduces the line voltage to 115 VAC before it reaches the PC Board.



Troubleshooting

[Back Up / Down Function (Power)]

Problem

[Go To Page:](#)

No UP or DOWN Functions	A-16
No DOWN Function (UP - OK)	A-17
No UP Function (DOWN - OK)	A-18
Back Drifts Down	A-19
Moves Wrong Direction	A-20
Noisy Operation	A-21
Moves Slowly	A-22

Back UP / DOWN Function (Power)

NOTE

On 230 VAC models, line voltage (230 VAC) is supplied thru two fuses (located by IEC inlet) to a transformer that reduces the line voltage to 115 VAC before it gets to the PC board.

Power To Foot Control

115 VAC is supplied thru the two primary fuses (F1 & F2) to the transformer on the PC board. [F4 fuse protects the transformer].

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Back Up Operation

NOTE

If the Back Up limit switch is tripped (open), the Back Up function will not operate.

When the Back Up function is activated, current (14 VAC) flows thru the Up function foot switch (N.O.), then back to the PC board. Circuitry on the PC Board energizes the back relay. [F5 fuse protects the back motor].

NOTE

The Back Up/Down relay has four contacts:
(2) **Normally Open: Back Up function**
(2) **Normally Closed: Back Down function**

When the back relay is energized, the (2) Normally Open contacts of the relay close. When these contacts close, current (48 VDC) flows to the actuator motor.

When current flows to the actuator thru the Normally Open contacts of the relay, the actuator motor runs and raises the back section.

Actuator Motor runs until:

1. Foot control pedal is released.
2. Back Up limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).

[Primary, Back Motor, Transformer fuse]

Back Down Operation

NOTE

If the Back Down limit switch is tripped (open), the Back Down function will not operate.

When the Back Down function is activated, current (14 VAC) flows thru the Down function foot switch (N.O.), then back to the PC Board.

NOTE

The Back Up/Down relay has four contacts:
(2) **Normally Open: Back Up function**
(2) **Normally Closed: Back Down function**

When this voltage is applied, current (48 VDC) flows to the actuator motor thru the (2) Normally Closed contacts of the Back Up/Down relay. [The relay does not energize].

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs and lowers the back section.

Actuator Motor runs until:

1. Foot control pedal is released.
2. Back Down limit switch is tripped.
3. 26 second software time limit is reached.
4. Fuse(s) opens (blows).

[Primary, Back Motor, Transformer fuse]



Equipment Alert

If an overload condition* is detected the PC board will "beep" and all power functions will be disabled. Release the function button, remove load, then retry function.

*(weight limit exceeded, mechanical binding, etc),

Troubleshooting

Go To Table Of Contents

Refer To:

Fuses

Limit Switches

Foot Control

Base / Back Actuator

Back Relay Test

Wiring Diagrams

Exploded Views / Part Numbers

B-2

B-4

B-6

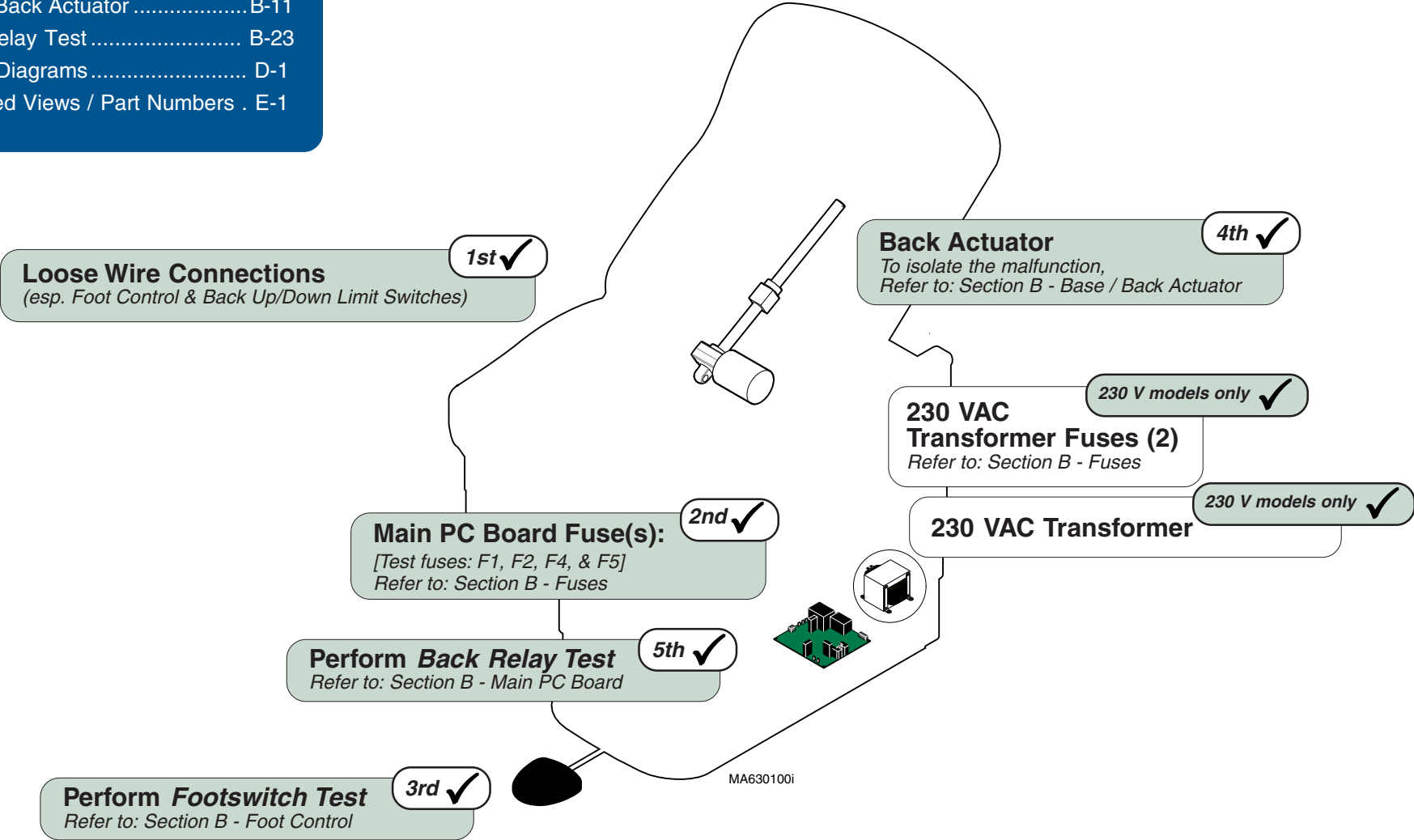
B-11

B-23

D-1

E-1

Function	Status	Problem
Back Up		No movement
Back Down		No movement



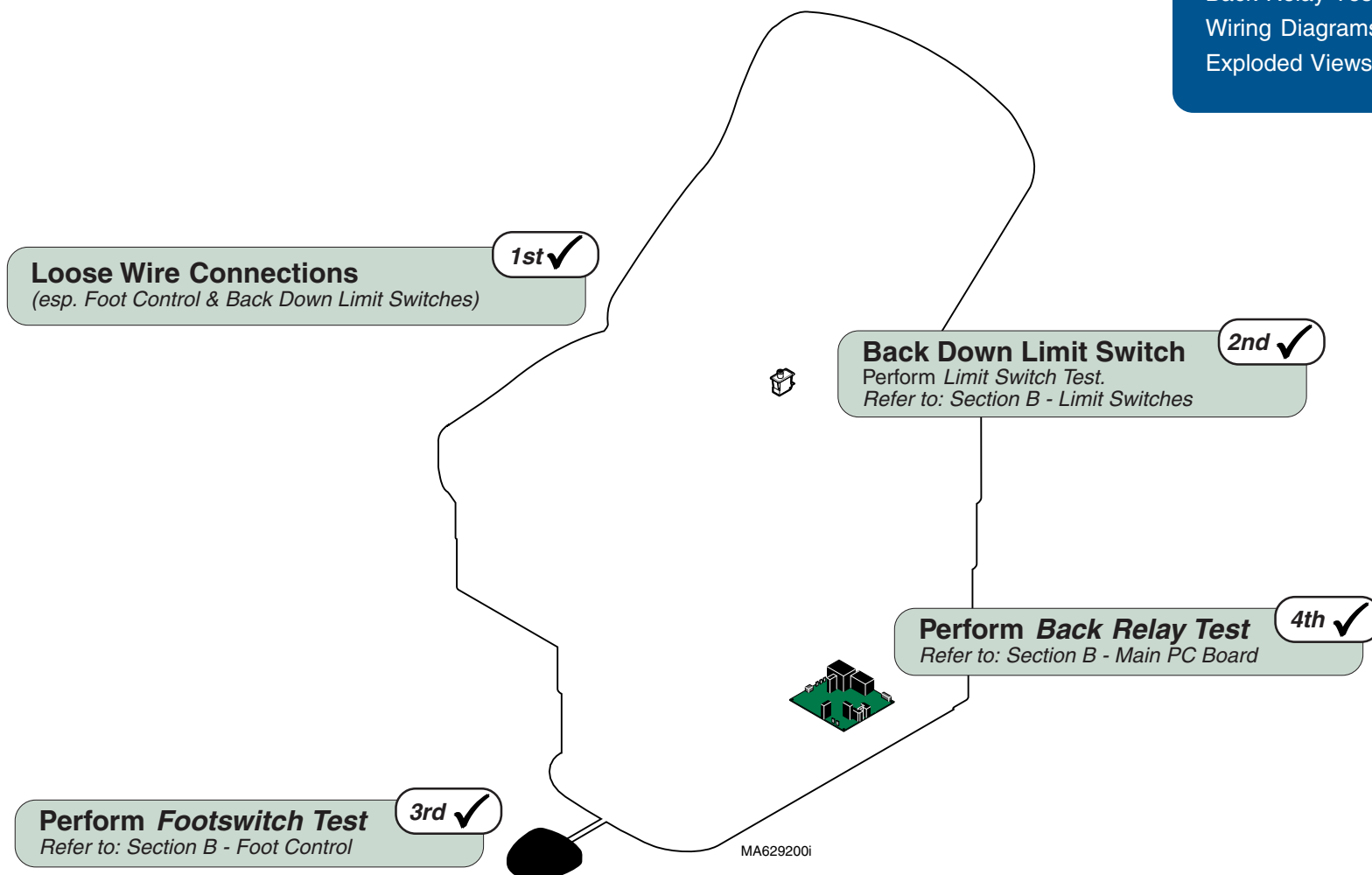
Troubleshooting

Function	Status	Problem
Back Up		OK
Back Down		No movement

Refer To:

Go To Page:

Limit Switches	B-4
Foot Control	B-6
Back Relay Test	B-23
Wiring Diagrams	D-1
Exploded Views / Part Numbers .	E-1



Models:
Serial Numbers:

223 (all)
All

623 (all)
All

Back Up / Down
Power

Troubleshooting

[Go To Table Of Contents](#)

Refer To:

Go To Page:

Limit Switches B-4

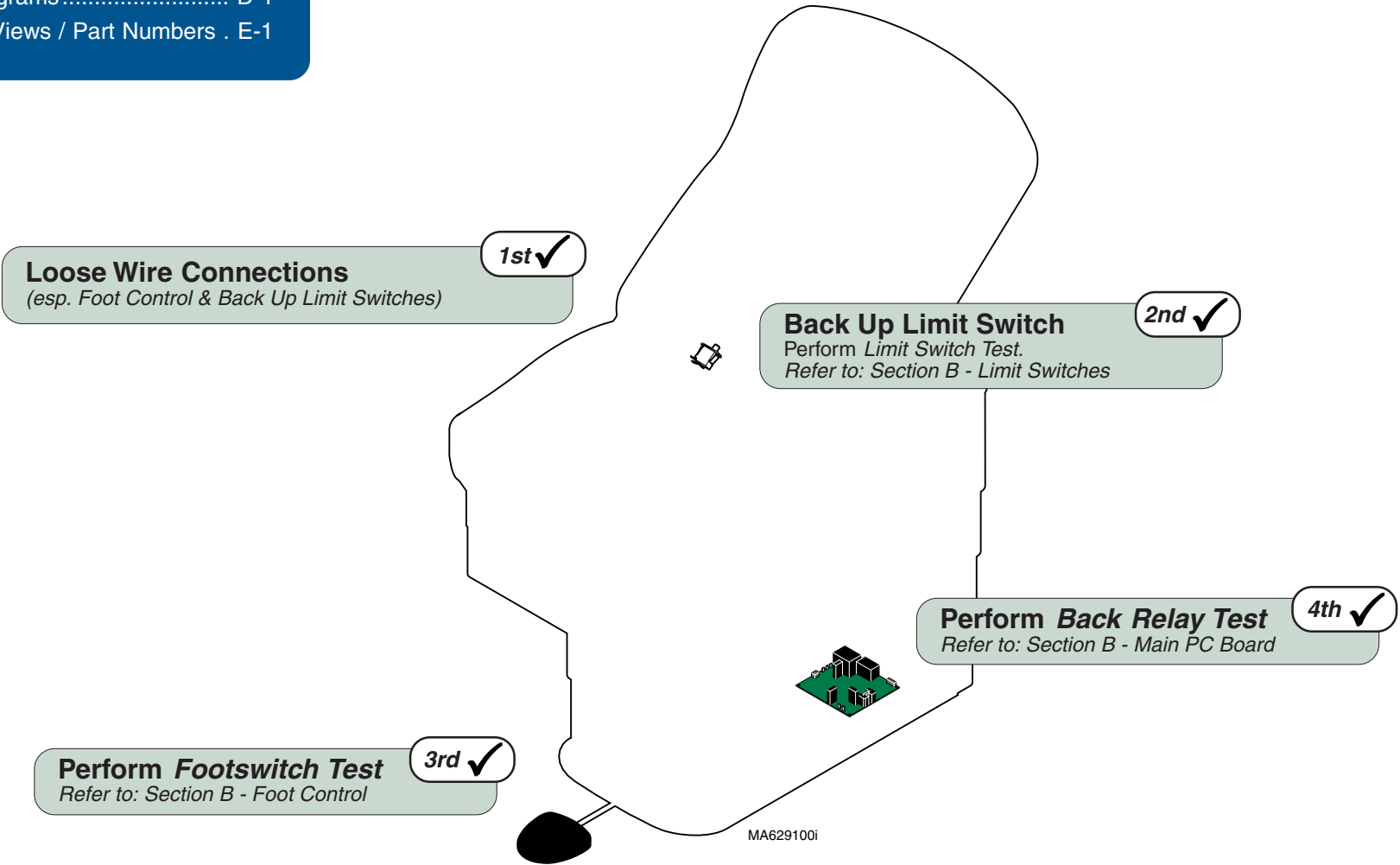
Foot Control B-6

Back Relay Test B-23

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

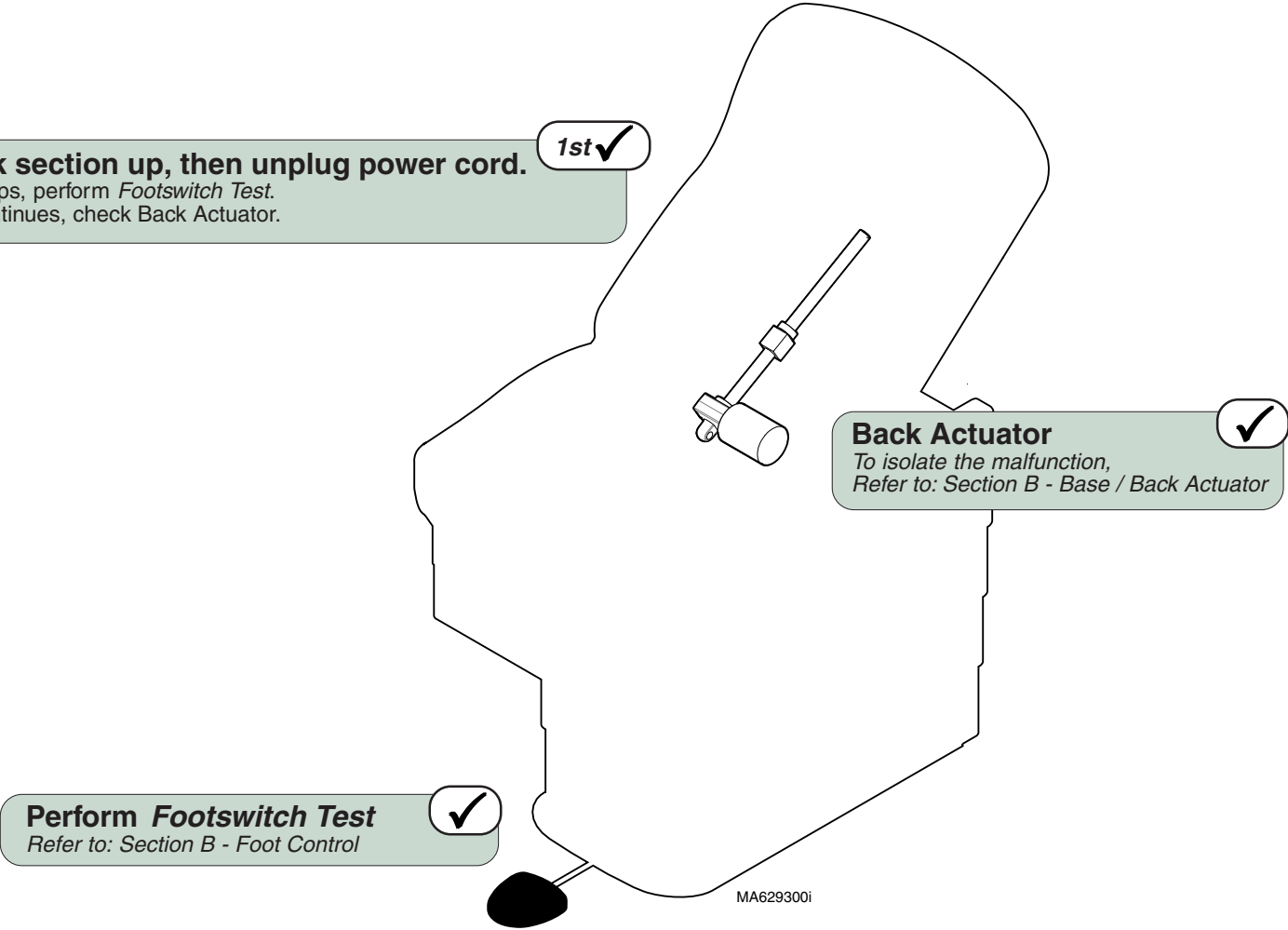
Function	Status	Problem
Back Up		No movement
Back Down		OK



Function	Status	Problem
Back Up		Back drifts down.
Back Down		Back drifts down.

Refer To:	Go To Page:
Foot Control	B-6
Base / Back Actuator	B-11
Wiring Diagrams	D-1
Exploded Views / Part Numbers ..	E-1

Run back section up, then unplug power cord. 1st ✓
If drifting stops, perform *Footswitch Test*.
If drifting continues, check Back Actuator.



Back Actuator ✓
To isolate the malfunction,
Refer to: Section B - Base / Back Actuator

Perform Footswitch Test ✓
Refer to: Section B - Foot Control

Models:	223 (all)	623 (all)
Serial Numbers:	All	All

**Back Up / Down
Power**

Troubleshooting

Go To Table Of Contents

Refer To:

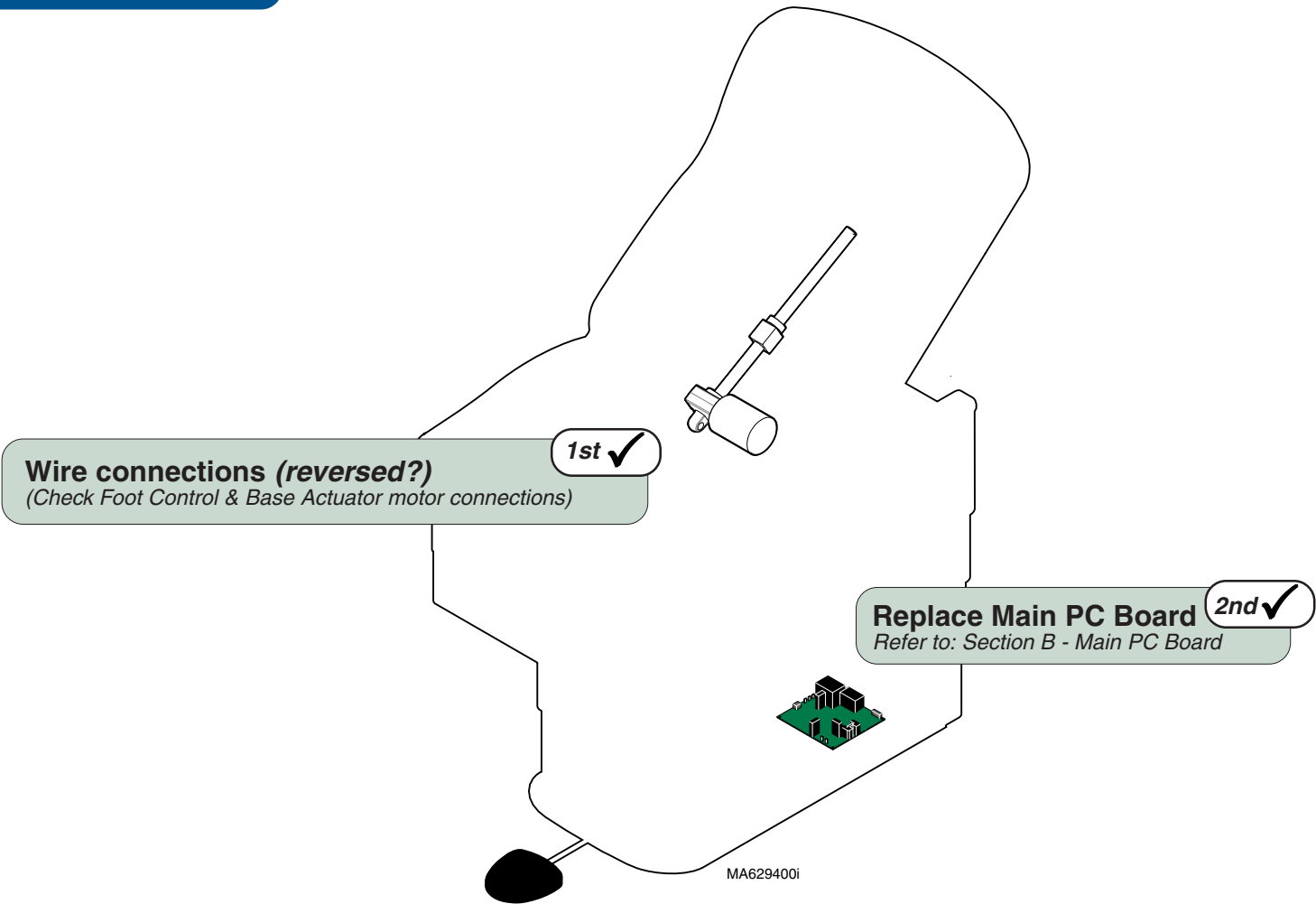
Go To Page:

Main PC Board Replacement B-24

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

Function	Status	Problem
Back Up		Press Back UP pedal, back section moves DOWN.
Back Down		Press Back DOWN pedal, back section moves UP.



Function	Status	Problem
Back Up		Noisy / grinding / squeaking
Back Down		Noisy / grinding / squeaking

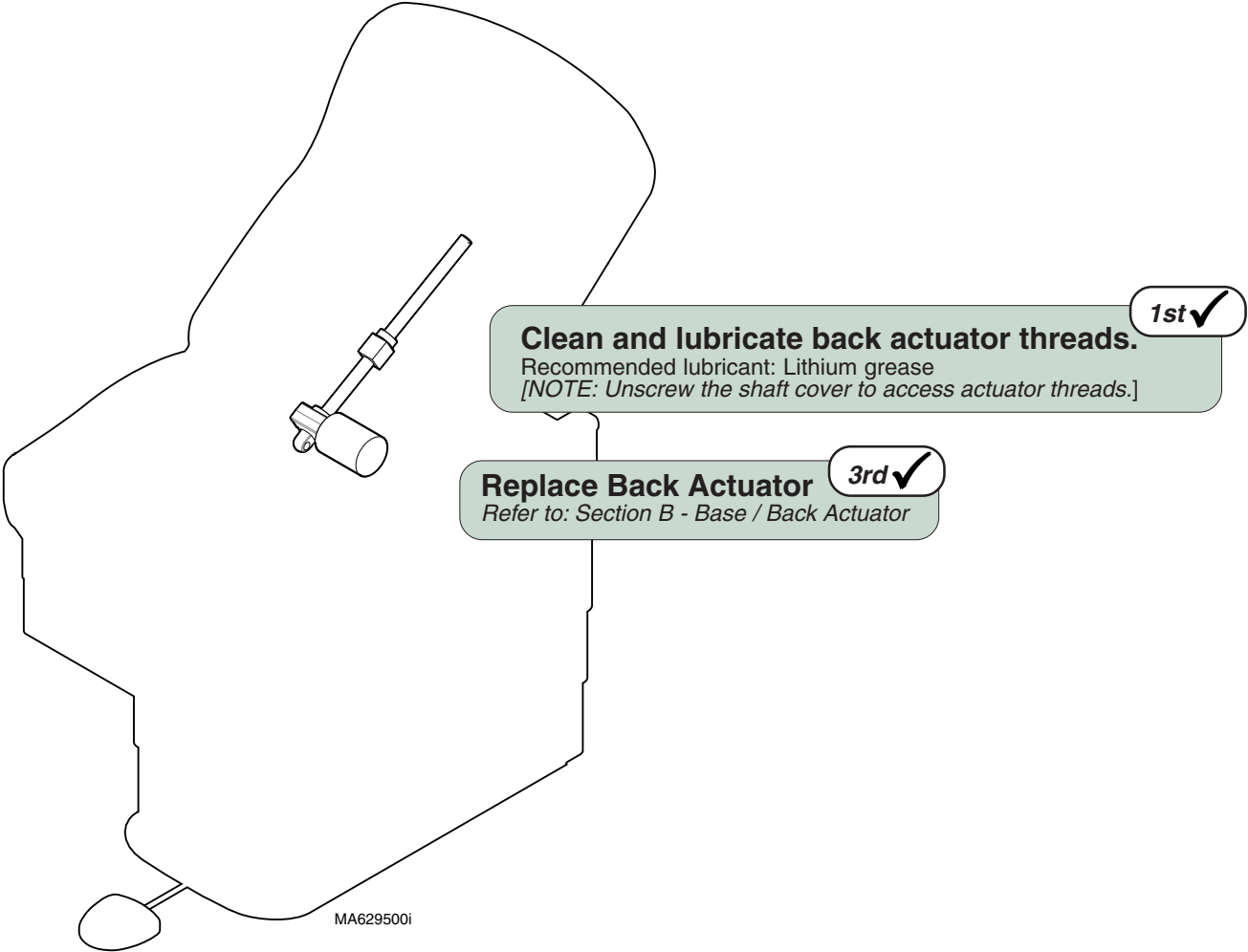
Refer To:

Go To Page:

Back Actuator Replacement B-15

Wiring Diagrams D-1

Exploded Views / Part Numbers .. E-1



Models:	223 (all)	623 (all)
Serial Numbers:	All	All

Troubleshooting

Refer To:

Go To Page:

Wiring Diagrams D-1

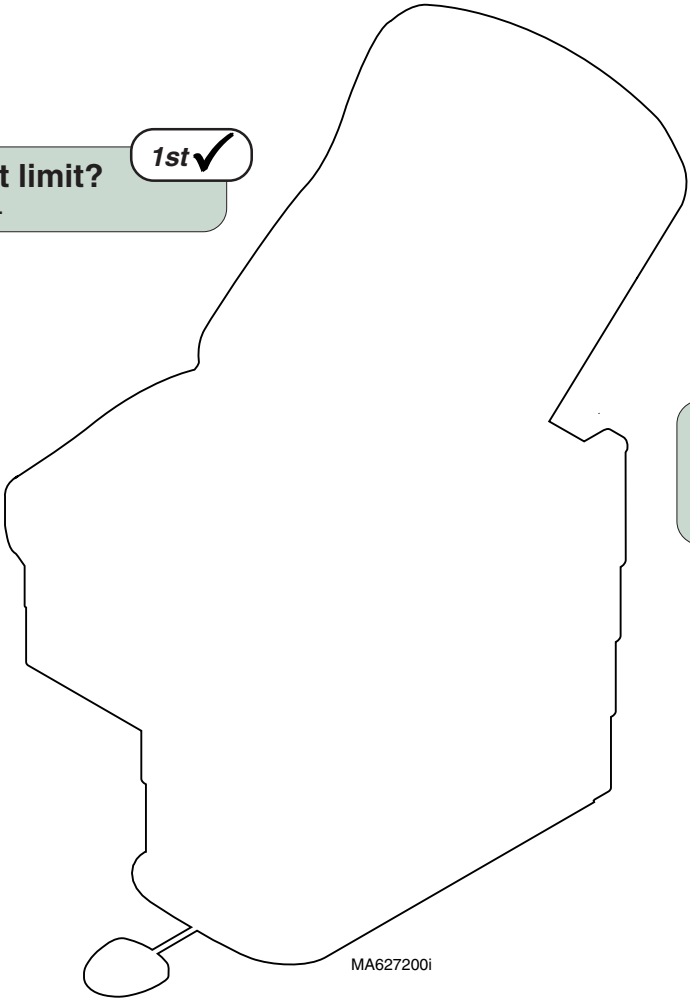
Exploded Views / Part Numbers .. E-1

Function	Status	Problem
Back Up		Moves slowly
Back Down		Moves slowly

1st ✓

Did patient exceed 400 lb. weight limit?

Inform staff that max. patient weight is 400 lbs.



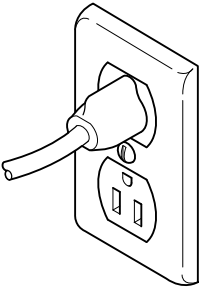
2nd ✓

Low voltage to table

Required voltage:

115 VAC models 115 ±10% VAC

230 VAC models 230 ±10% VAC



Drawer Heater System (optional)

This illustration shows only the components that affect the drawer heater system.
A detailed description of current flow during this function also appears below.

Troubleshooting [Drawer Heater System]

Go To Page:

Problem

Drawer Heater Does Not Warm Up:

Switch Does Not Illuminate A-24

Switch Illuminates A-25

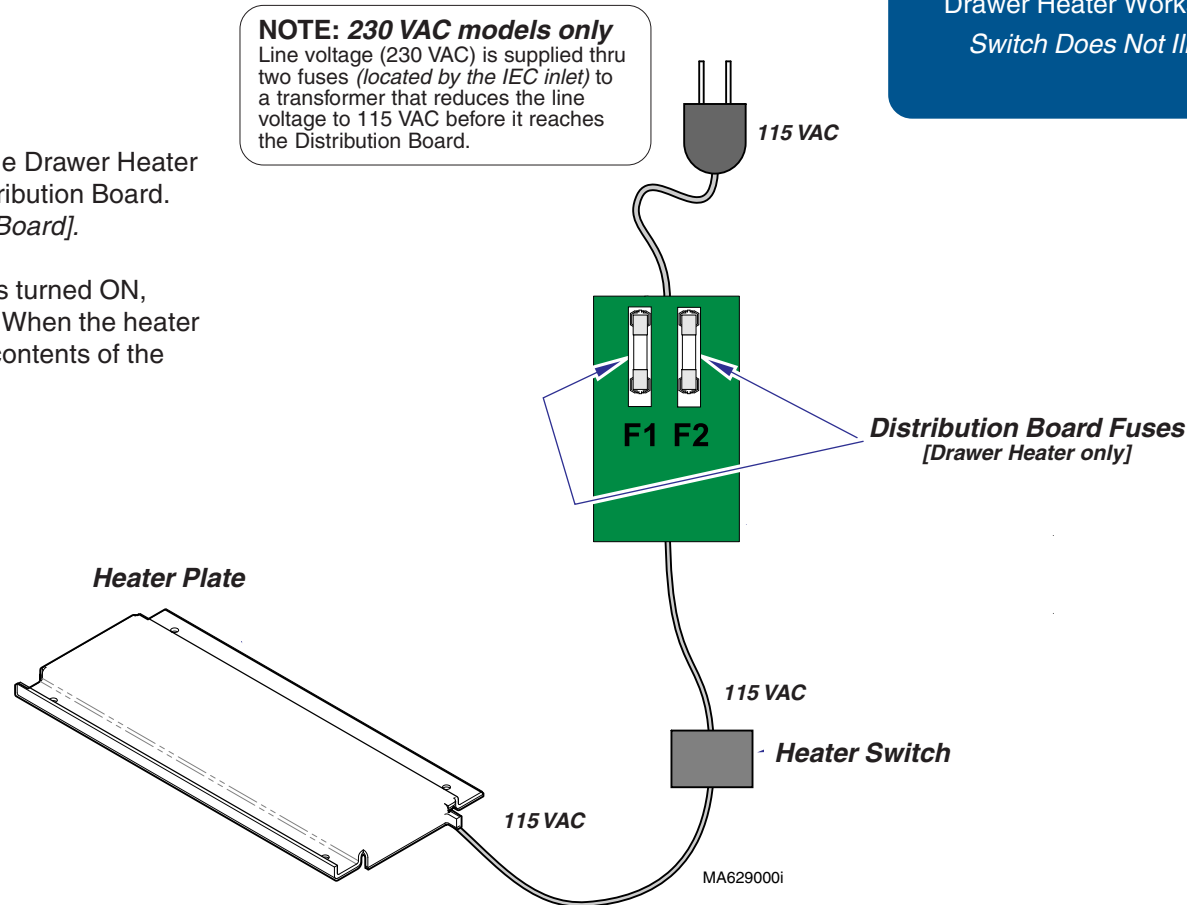
Drawer Heater Works Properly:

Switch Does Not Illuminate A-26

Drawer Heater Operation

115 VAC is supplied directly to the Drawer Heater switch thru two fuses on the Distribution Board.
[Voltage bypasses the Main PC Board].

When the drawer heater switch is turned ON, current flows to the heater plate. When the heater plate is energized, it warms the contents of the drawer.



Models:	222	223	622	623
Serial Numbers:	(-003 /-004 /-007 /-008 /-010 /-016) All	(-003 /-004 /-007 /-008 /-010 /-016) All	(-002 /-004 /-006 /-008) All	(-002 /-004 /-008 /-010 /-011) All

Troubleshooting

[Go To Table Of Contents](#)

Function

Status

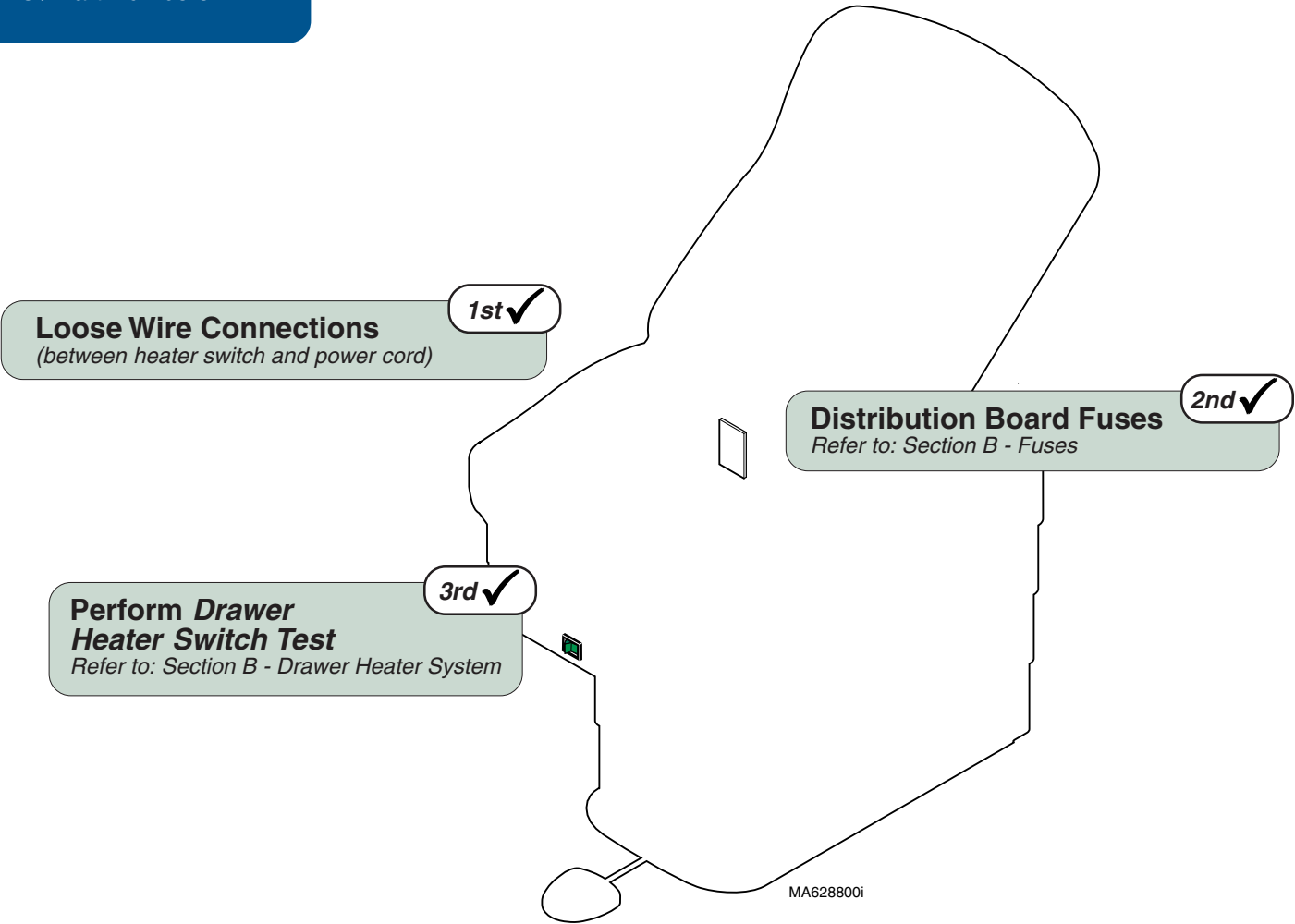
Problem

Drawer Heater		Does not heat up.
Heater Switch		Does <u>not</u> illuminate

Refer To:

Go To Page:

- Fuses B-2
- Drawer Heater System B-25
- Wiring Diagrams D-1
- Exploded Views / Part Numbers . E-1



Function	Status	Problem
Drawer Heater		Does not heat up.
Heater Switch		OK (<i>Illuminates</i>)

Refer To:

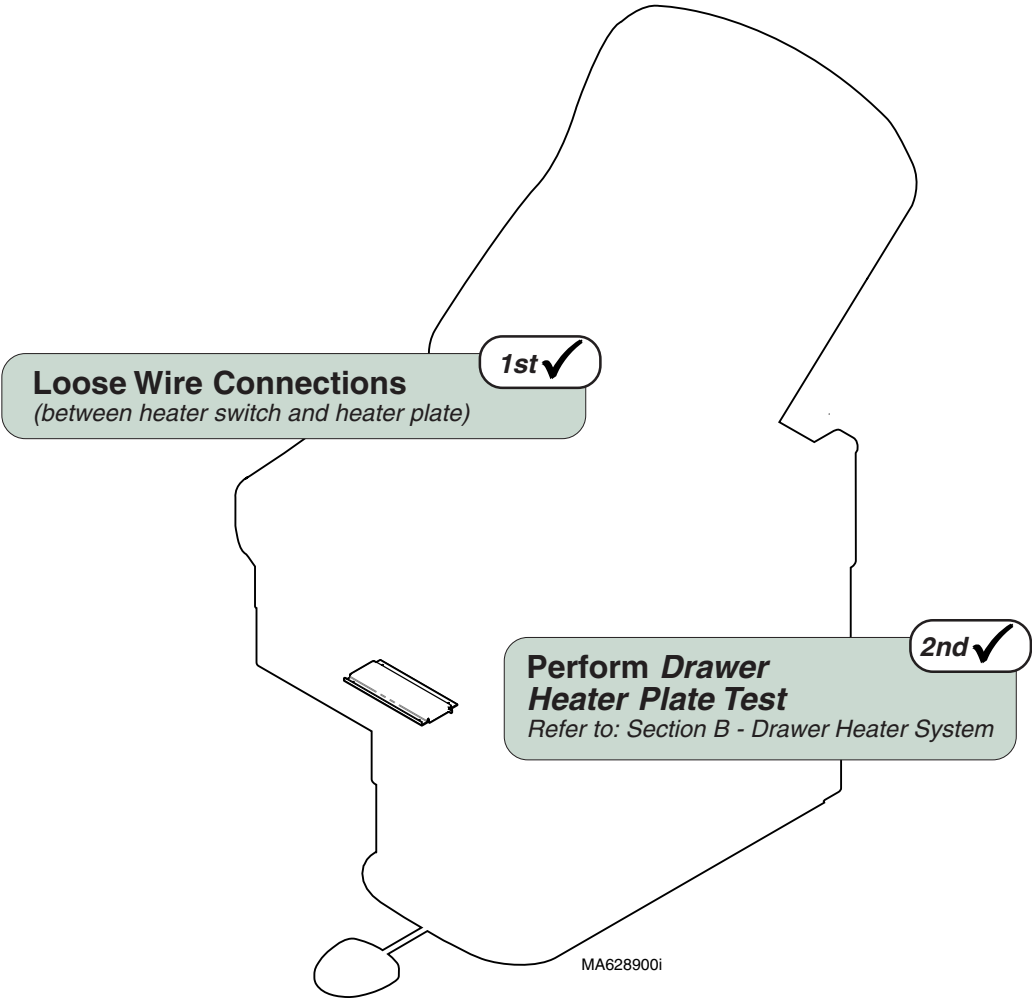
Go To Page:

Fuses B-2

Drawer Heater System B-25

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1



Models:	222	223	622	623
Serial Numbers:	(-003 /-004 /-007 /-008 /-010 /-016) All	(-003 /-004 /-007 /-008 /-010 /-016) All	(-002/-004/-006/-008) All	(-002/-004/-008/-010/-011) All

Troubleshooting

[Go To Table Of Contents](#)

Refer To:

Go To Page:

Drawer Heater System B-25

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

Function	Status	Problem
Drawer Heater		OK
Heater Switch		Does <u>not</u> illuminate

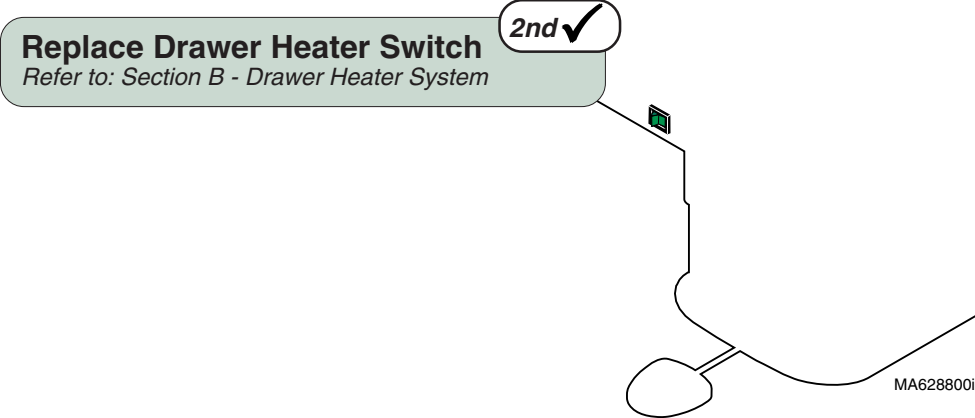


Table Receptacle (optional)

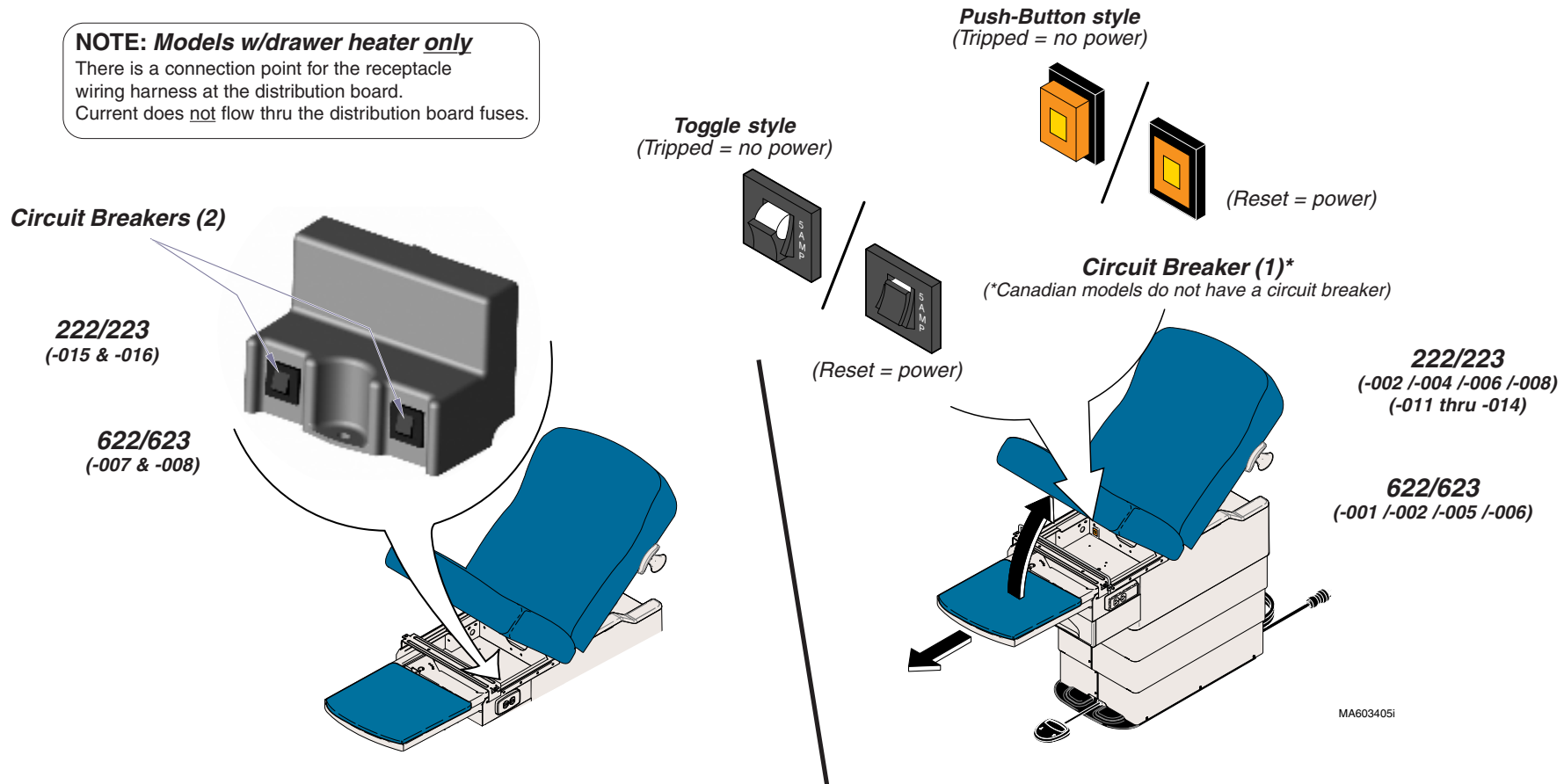
This illustration shows only the components that affect the table receptacle.
A detailed description of current flow also appears below.

Table Receptacle

115 VAC is supplied directly to the table receptacle thru the circuit breaker(s)*.
[Voltage bypasses the Main PC Board].

NOTE: Models w/drawer heater only

There is a connection point for the receptacle wiring harness at the distribution board.
Current does not flow thru the distribution board fuses.



Troubleshooting [Table Receptacle]

Problem

Go To Page:

No Power At Receptacle A-28

Models:	222	223	622	623
Serial Numbers:	(-002 /-004 /-006 /-008) (-011 thru -016) All	(-002 /-004 /-006 /-008) (-011 thru -016) All	(-001 /-002) (-005 thru -008) All	(-001 /-002) (-005 thru -008) All

Table Receptacle

Troubleshooting

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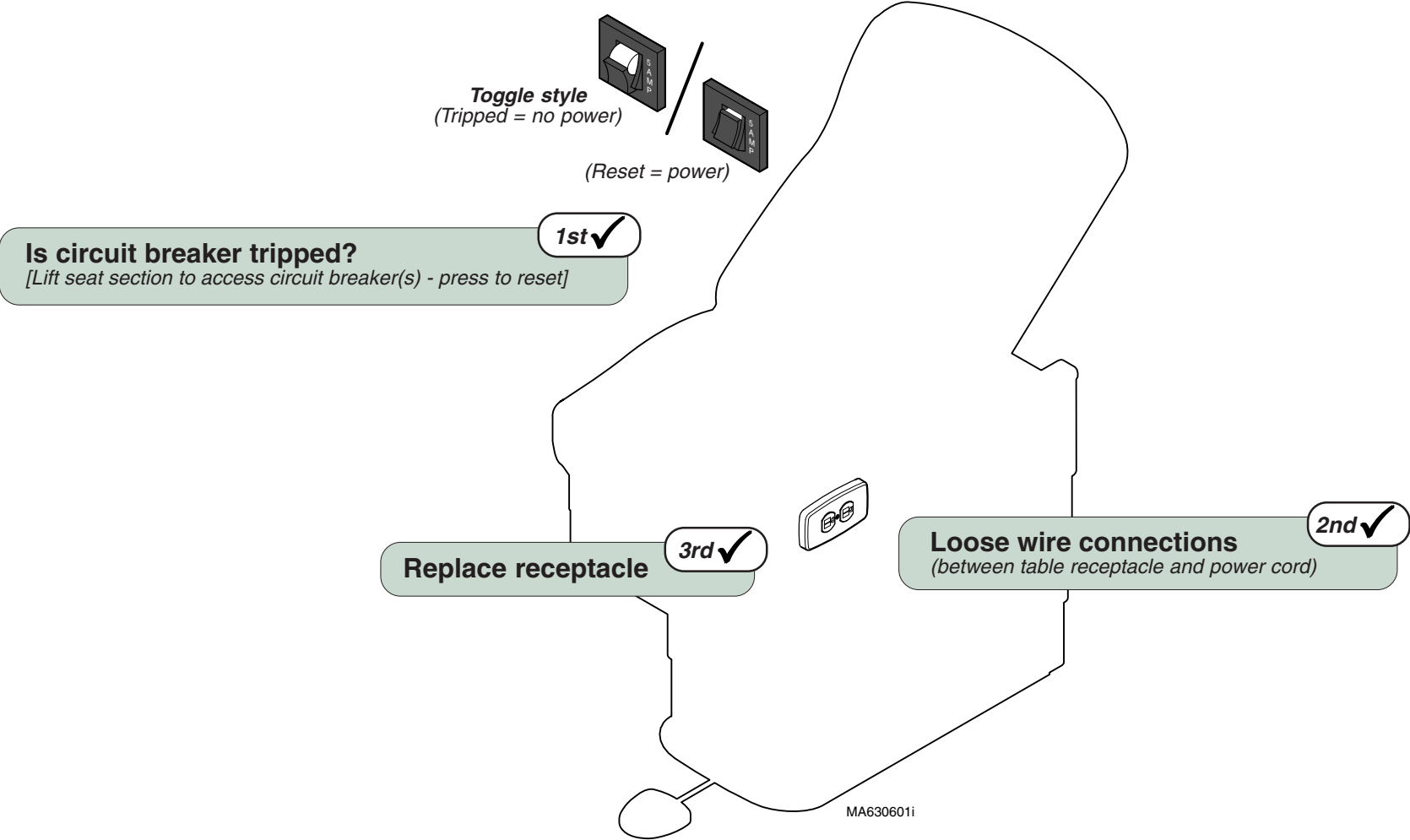
Refer To:

Wiring Diagrams D-1

Exploded Views / Part Numbers .. E-1

Go To Page:

Function	Status	Problem
Table Receptacle		No power.
All other functions		OK

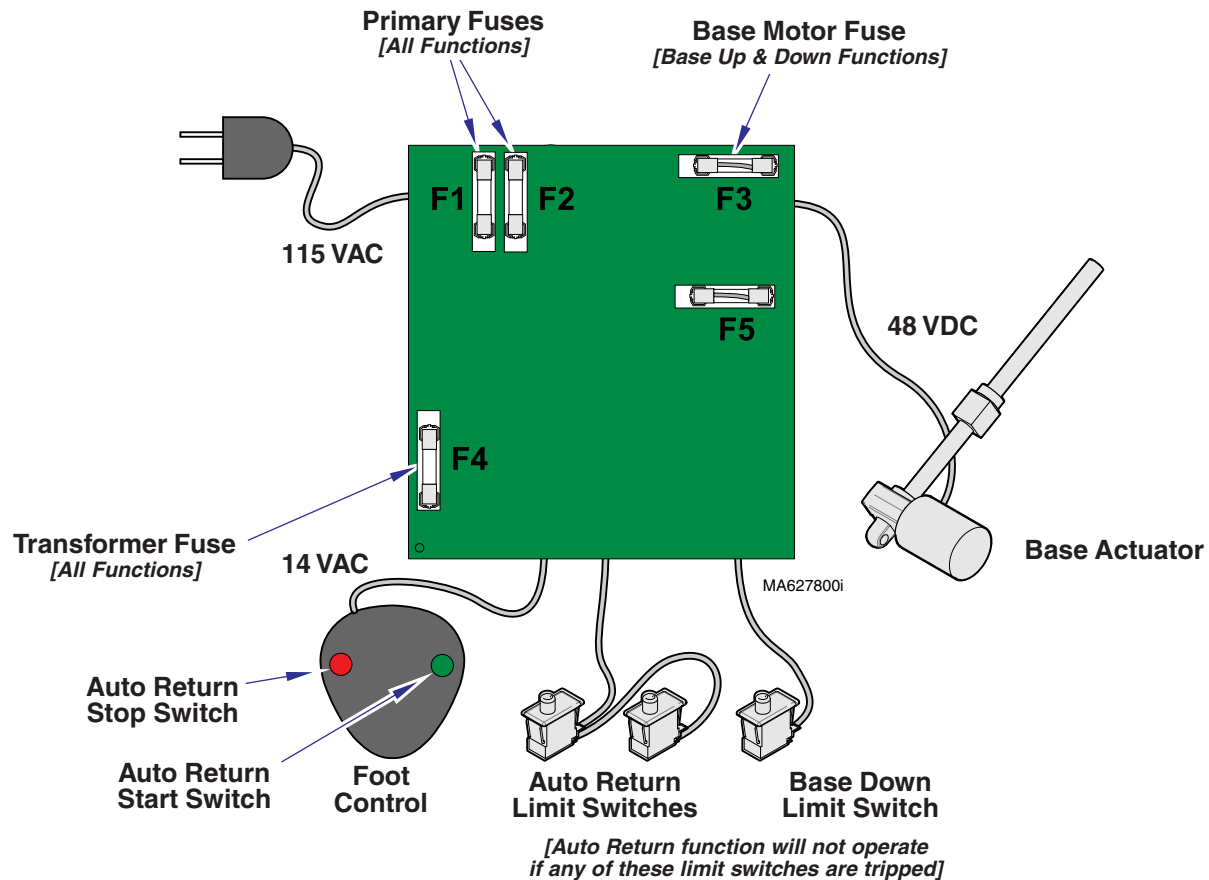


Models: Serial Numbers:	222 (-002 /-004 /-006 /-008) (-011 thru -016) All	223 (-002 /-004 /-006 /-008) (-011 thru -016) All	622 (-001 /-002) (-005 thru -008) All	623 (-001 /-002) (-005 thru -008) All
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Auto Return Function

This illustration shows only the components that affect the Auto Return function.

Refer to the following page for a detailed description of current flow during this function.



Troubleshooting

[Auto Return Function]

[Go To Page:](#)

Problem

Auto Return Function Does Not Work /

Base Down Function:

Malfunctioning A-2

Works Properly..... A-31

Troubleshooting

Auto Return Function

Power To Foot Control

115 VAC is supplied thru the two primary fuses (*F1 & F2*) to the transformer on the PC board.
[F4 fuse protects the transformer].

The transformer reduces the line voltage and supplies 14 VAC to the foot control.

Auto Return Operation

NOTE

If either of the Auto Return limit switches or the Base Down limit switch are tripped (open), the Auto Return function will not operate.

When the Auto Return Switch is depressed (closed), current (*14 VAC*) flows thru the switch, to the PC Board.

NOTE

The Base Up / Down relay, located on the PC Board, has four contacts (DPDT):

(2) Normally Open: Base Up function

(2) Normally Closed: Base Down function

When this voltage is applied, current (*48 VDC*) flows to the actuator motor thru the (2) Normally Closed contacts of the Base Up / Down relay.
[The relay does not energize].

When voltage flows to the actuator thru the Normally Closed contacts of the relay, the actuator motor runs lowering the table.

Actuator Motor runs until:

1. Stop button is depressed.
2. Auto Return limit switch(es) is tripped.
3. 18 second software time limit is reached.
4. Base Down limit switch is tripped.
5. Fuse(s) opens (blows).

[Primary, Base Motor, Transformer fuse]

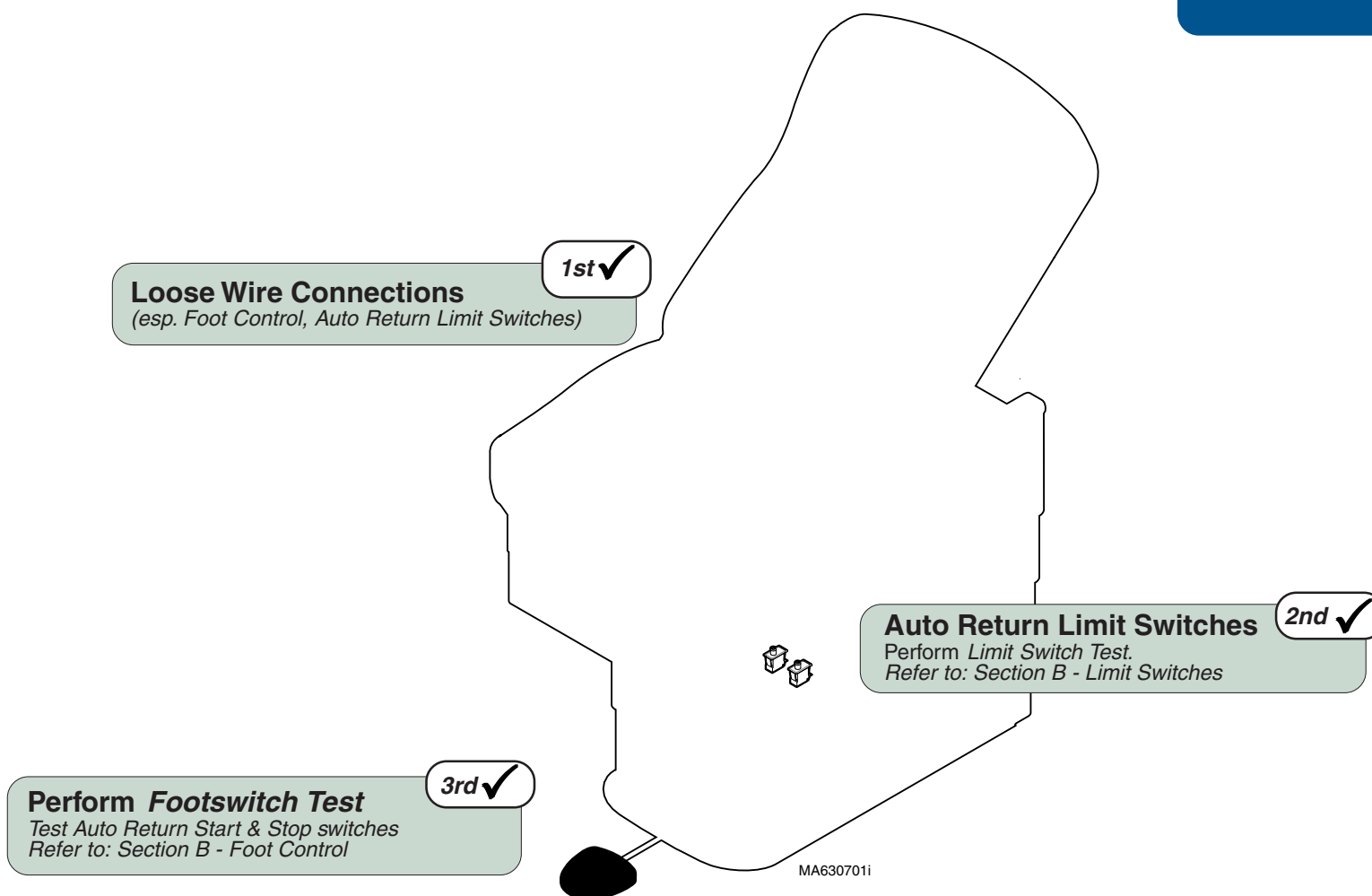
Troubleshooting

Function	Status	Problem
Auto Return		No movement
Base Down		OK

Refer To:

Limit Switches B-4
 Foot Control B-6
 Wiring Diagrams D-1
 Exploded Views / Part Numbers .. E-1

Go To Page:



Models: 623 (all)
Serial Numbers: All

**Auto Return
Function**

Troubleshooting

[Go To Table Of Contents](#)

Upholstery Heater System (optional)

This illustration shows only the components that affect the Upholstery Heater System.
A detailed description of current flow during this function also appears below.

Upholstery Heater Operation

115 VAC is supplied thru the IEC inlet to the Distribution PC board and then to the Upholstery Heater PC board at J2 & J3.
Fuses F1 and F2 protect the circuit.
Circuitry on PC board converts 115 VAC to 12 VAC.

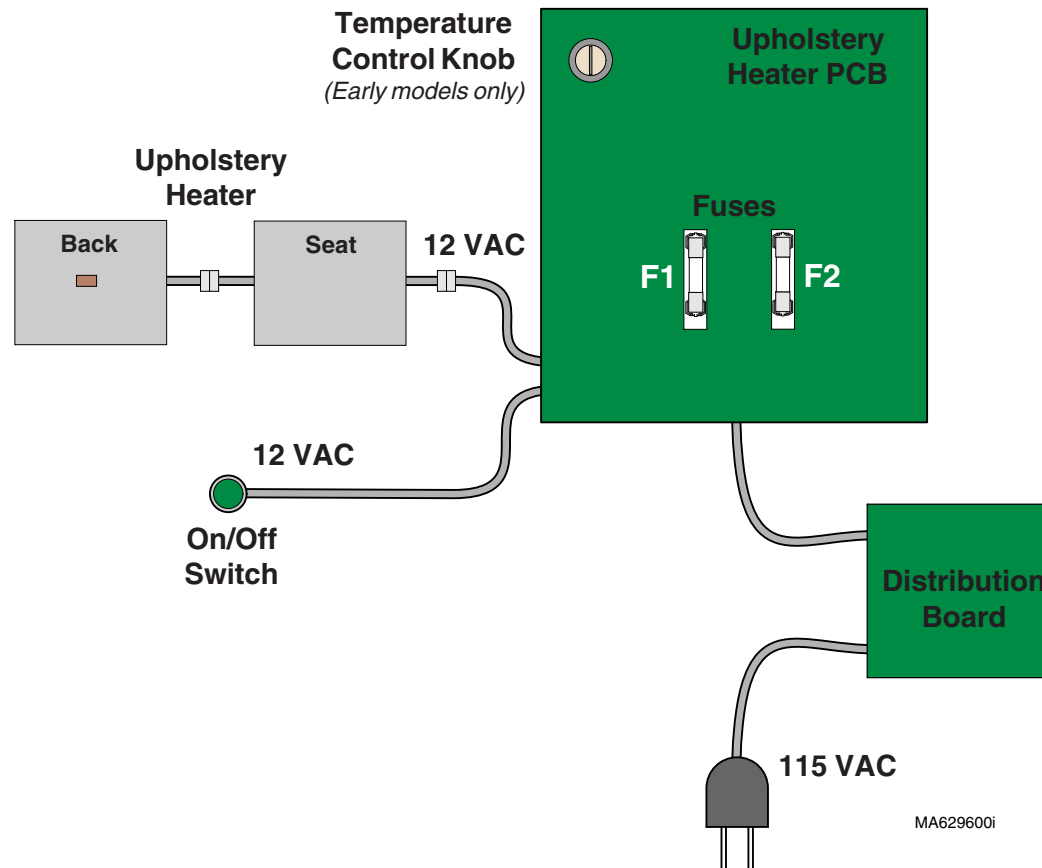
Depressing and releasing the momentary On/ Off Switch supplies approximately 12 VAC to the Upholstery Heater.
A timer on the PC board (*initiated when the On/ Off Switch is depressed*) keeps the heater activated for an 8 hour period unless the Switch is depressed Off.

(Temperature knob not present on later models)
The upholstery heater temperature can be regulated by the operator. Turning the temperature knob will increase or decrease the voltage to the heater. The temperature can be varied to a maximum of 105° F (41° C).

A thermostat, located in Back Heating Pad, opens at 131° F (55°C) +/- 10% removing power from both Back and Seat heating elements.

Upholstery Heater runs until:

1. Stop button is depressed.
2. 8 hour time limit is reached.
3. Fuse(s) on Upholstery Heater PCB opens (blows).



Troubleshooting [Upholstery Heater System]

Problem

[Go To Page:](#)

Heater Does Not Warm Up:

Switch Does Not Illuminate A-33

Switch Illuminates A-34

Heater Works Properly:

Switch Does Not Illuminate A-35

Upholstery Heater

Models:	622	623
Serial Numbers:	(-002 /-004 /-006-008) All	(-002 /-004 /-008 / -010) All

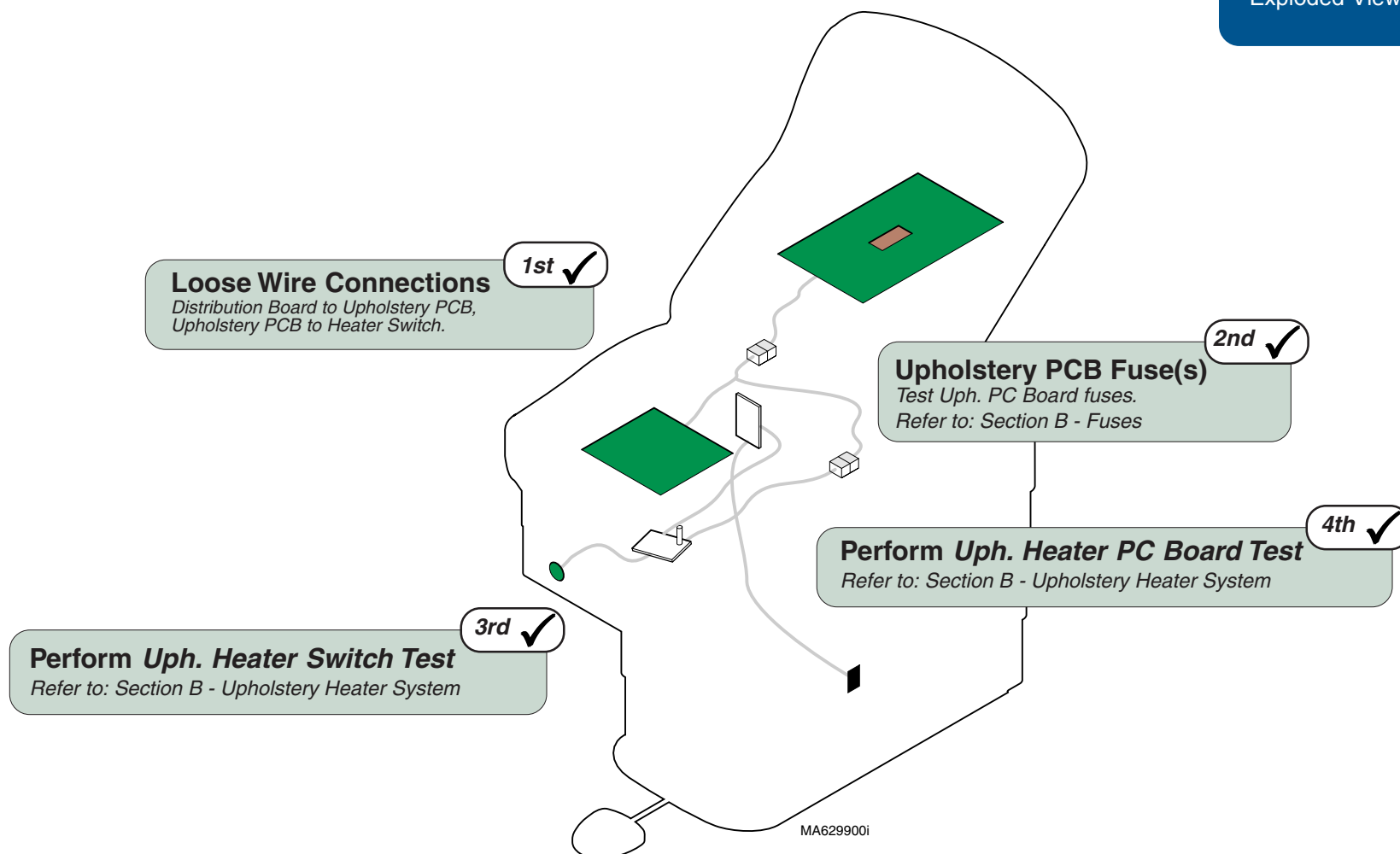
Troubleshooting

Function	Status	Problem
Upholstery Heater		Does <u>not</u> heat up.
Heater Switch		Does <u>not</u> illuminate

Refer To:

Go To Page:

Fuses B-2
 Uph. Heater PC Board Test B-31
 Uph. Heater Switch Test B-35
 Wiring Diagrams D-1
 Exploded Views / Part Numbers . E-1



Models:	622	623
Serial Numbers:	(-002 / -004 / -006 -008) All	(-002 / -004 / -008 / -010) All

Upholstery Heater

Troubleshooting

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Refer To:

Go To Page:

Fuses B-2

Uph. Heater PC Board Test B-31

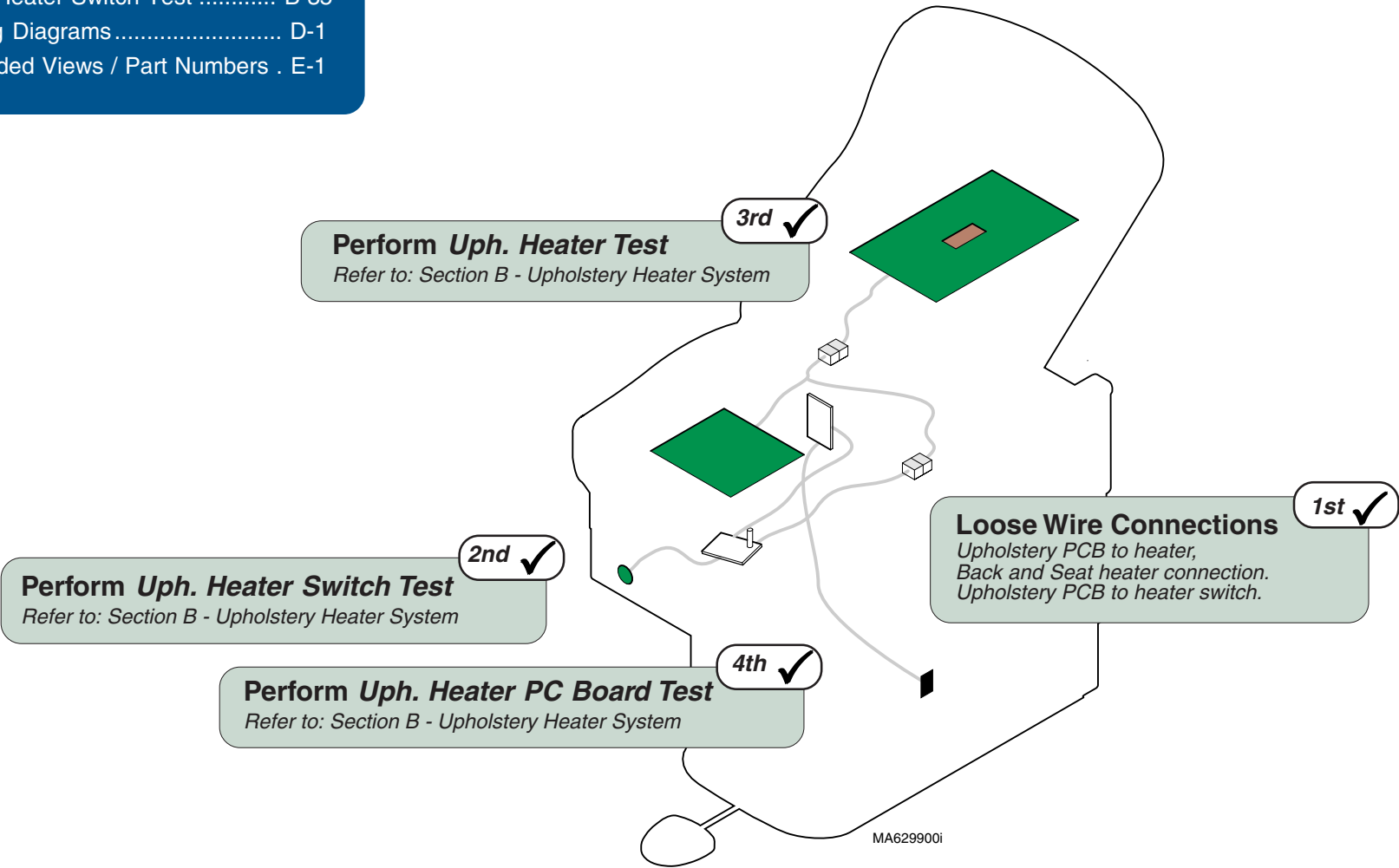
Uph. Heater Test B-34

Uph. Heater Switch Test B-35

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1

Function	Status	Problem
Upholstery Heater		Does <u>not</u> heat up.
Heater Switch		Illuminates.



Function	Status	Problem
Upholstery Heater		OK
Heater Switch		Does <u>not</u> illuminate

Refer To:

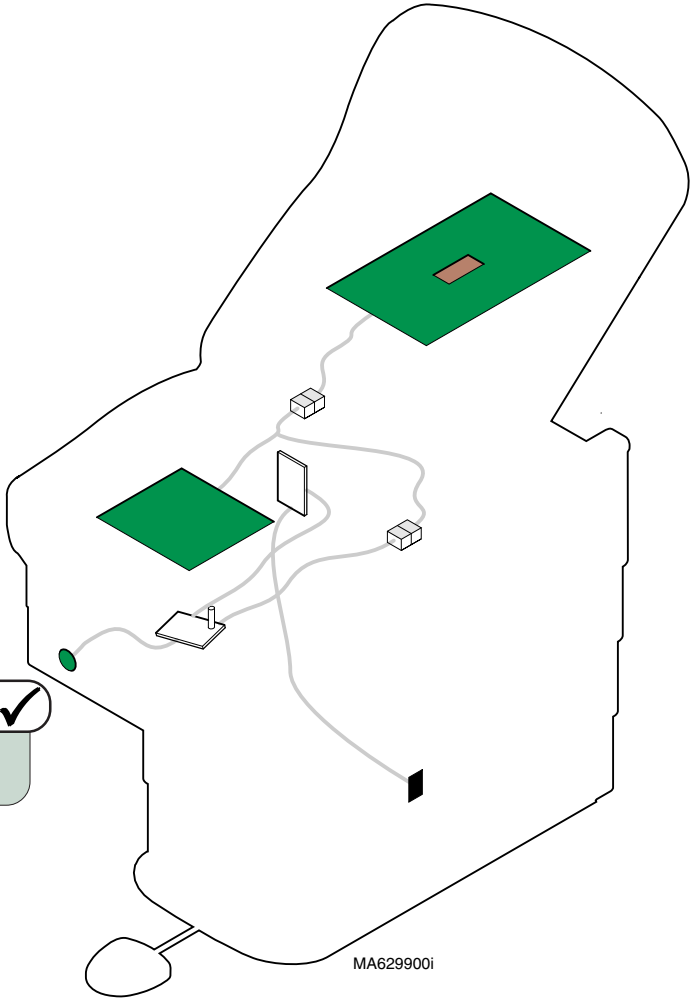
Go To Page:

Upholstery Heater Switch

Replacement B-35

Wiring Diagrams D-1

Exploded Views / Part Numbers . E-1



1st ✓

Replace Uph. Heater Switch
Refer to: Section B - Upholstery Heater System

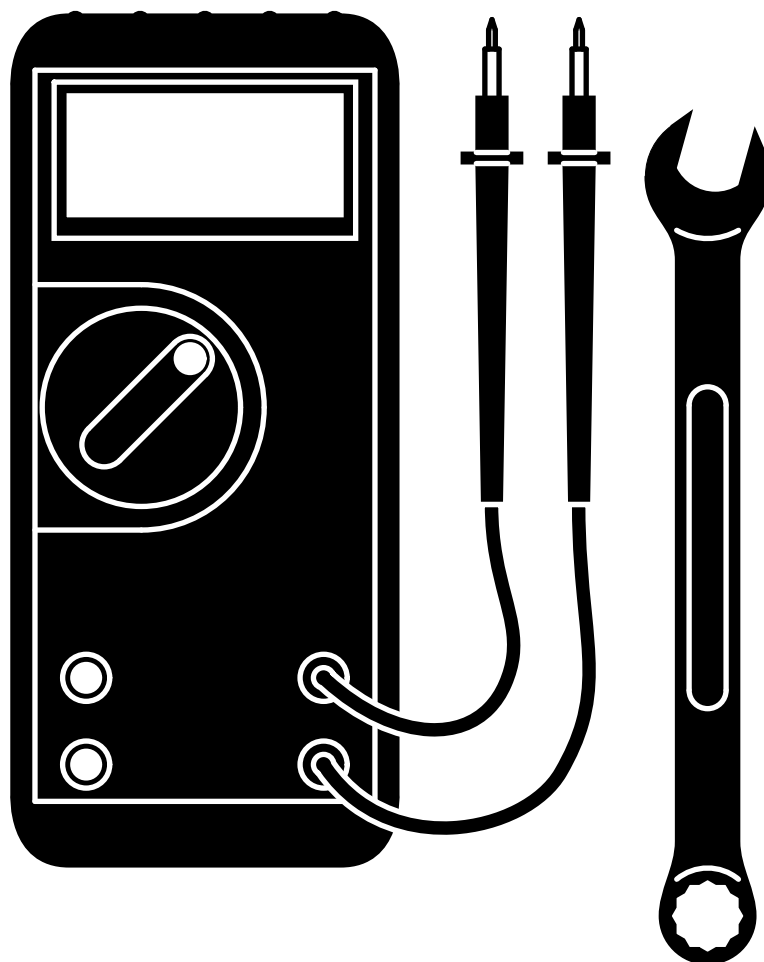
Models:	622	623
Serial Numbers:	(-002 /-004 /-006-008) All	(-002 /-004 /-008 / -010) All

Troubleshooting

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Section B

Component Testing & Repair



Components

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Fuses	B-2
Limit Switches	B-4
Foot / Hand Control	B-6
Base Actuator	B-11
Back Actuator (<i>power</i>)	B-11
Back Release Mechanism (<i>manual</i>)	B-17
Main PC Board	B-21
Drawer Heater System	B-25
Upholstery Heater System	B-31

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitive. ex. B-2)

Component Testing & Repair

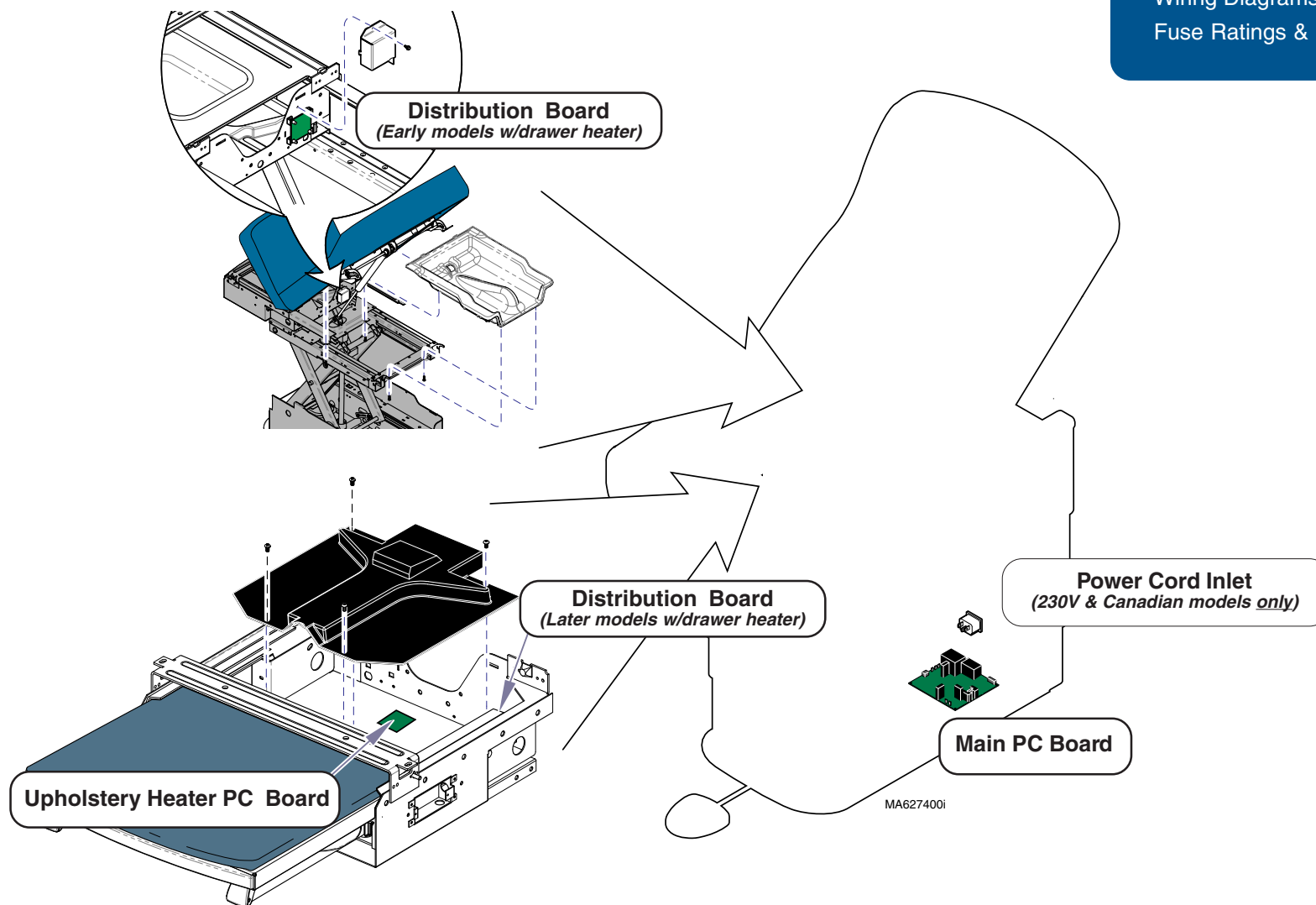
Fuses

Location

Go To Page:

Fuses

Location	B-2
Fuse Test	B-3
Access Procedures	C-1
Wiring Diagrams	D-1
Fuse Ratings & Part Numbers	E-25



Fuses - continued

Fuse Test



Meter Reading	Status	Required Action
OL		Replace fuse.
Any resistance reading		Fuse is good.

Component Testing & Repair

[Go To Table Of Contents](#)

Limit Switches

Location

[Limit Switches](#)

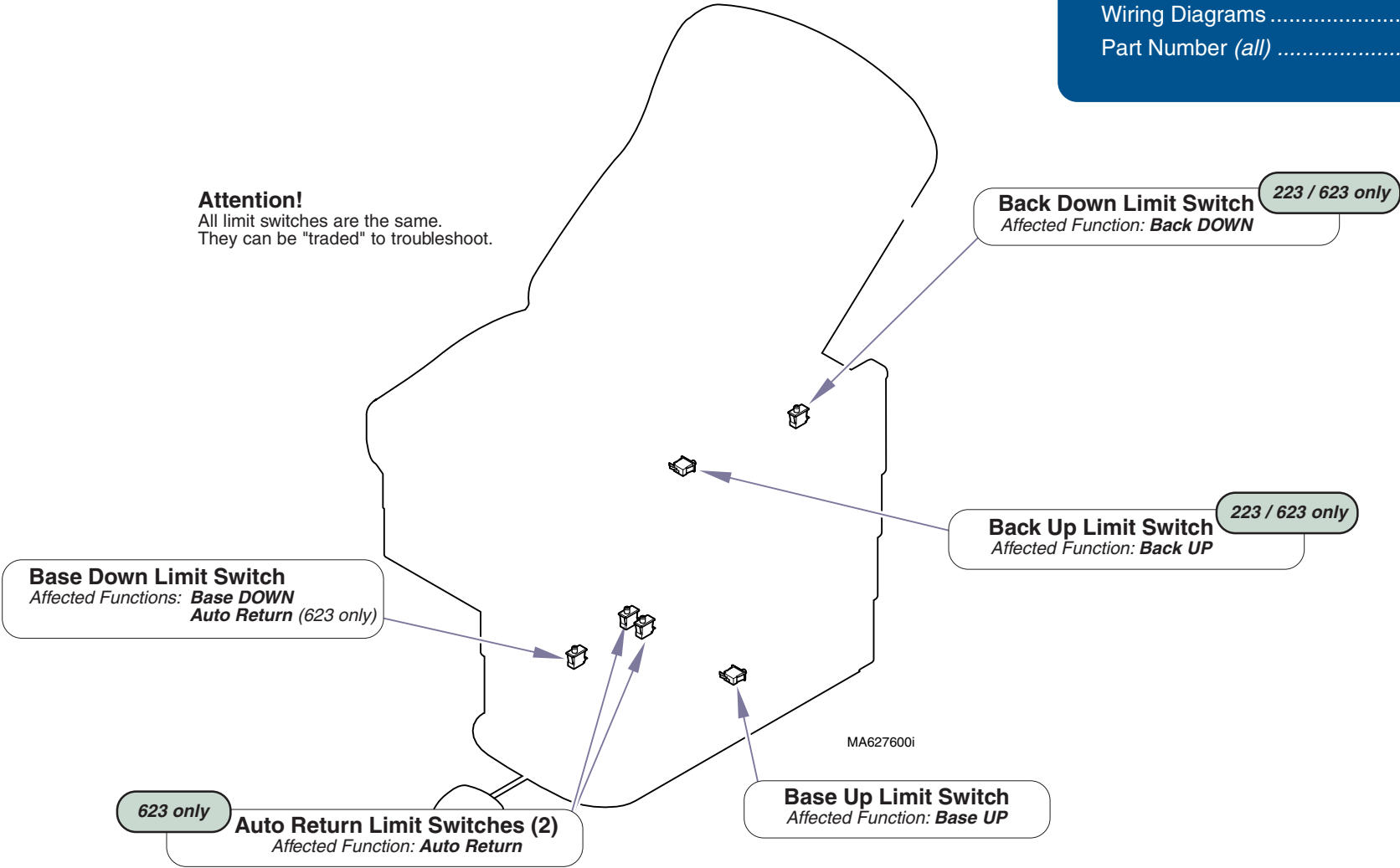
Location B-4

Limit Switch Test B-5

Access Procedures C-1

Wiring Diagrams D-1

Part Number (all) 015-1055-00



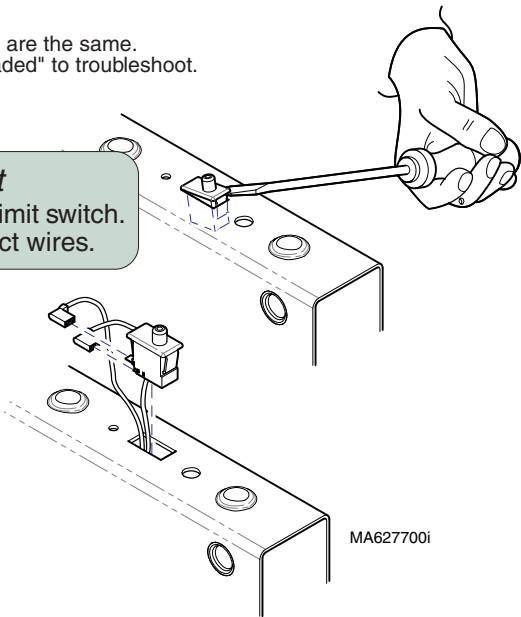
Component Testing & Repair

Limit Switches - continued

Limit Switch Test

Attention!
All limit switches are the same.
They can be "traded" to troubleshoot.

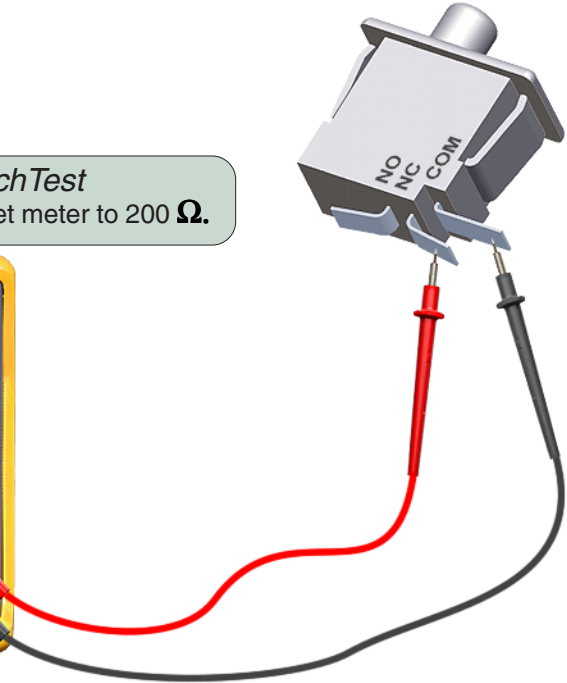
Limit Switch Test
Step 1: Remove limit switch.
Disconnect wires.



Limit Switch Test
Step 2: Set meter to 200 Ω .



Limit Switch Test
Step 3: Place meter probes on **COM** and **NC** terminals.
Note: Check switch 'tripped' and 'untripped'.



With switch 'tripped'...

Meter Reading	Status	Required Action
OL		Switch is good. Perform next check.
less than or = to 5 ohms		Replace switch

With switch 'untripped'...

Meter Reading	Status	Required Action
OL		Replace switch
Any resistance reading		Switch is good. Perform next check.

Models:	All
Serial Numbers:	All

Limit Switches

Component Testing & Repair

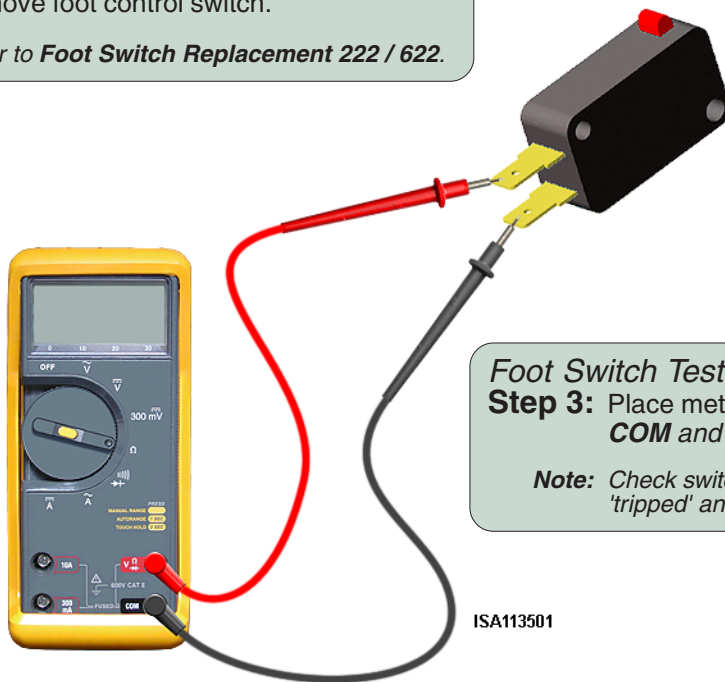
Foot / Hand Control

Foot Switch Test - 222 / 622

Foot Switch Test

Step 1: Remove foot control switch.

Note: Refer to **Foot Switch Replacement 222 / 622**.



Foot Switch Test
Step 2: Set meter to Ω .

Foot Switch Test

Step 3: Place meter probes on **COM** and **NO** terminals.

Note: Check switch 'tripped' and 'untripped'.

Go To Page:

Foot / Hand Control

Foot Switch Test - 222 / 622 B-6

Foot / Hand Control Test - 223 / 623 B-7

Foot Switch Replacement:

222 / 622 B-8

223 / 623 (old style foot control) B-9

Switch Membrane Replacement:

223 / 623 (new style foot control) B-10

623 Hand Control B-10

Wiring Diagrams D-1

Exploded View / Part Numbers:

Foot Control - 222 / 622 E-27

Foot Control - 223 E-28*

Foot Control - 623 E-29*

Hand Control - 623 E-30

* multiple pages due to model / serial # break

With switch 'tripped'...

Meter Reading	Status	Required Action
less than or = to 5 ohms		Switch is good. Perform next check.
OL		Replace switch

With switch 'untripped'...

Meter Reading	Status	Required Action
Any resistance reading		Replace switch.
OL		Switch is good. Perform next check.

Component Testing & Repair

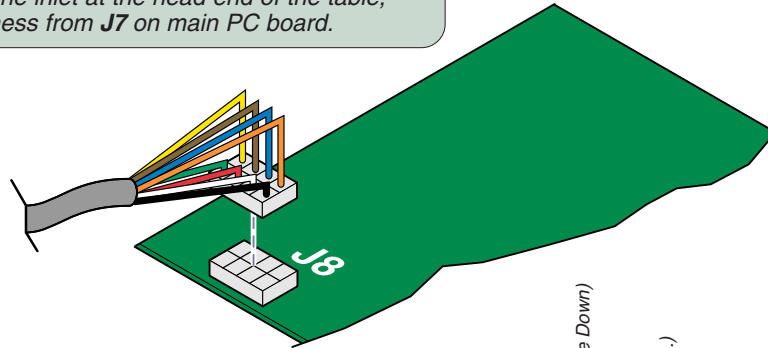
Foot / Hand Control - continued

Foot / Hand Control Test - 223 / 623

Foot / Hand Control Test

Step 1: Disconnect wire harness from J8* on main PC board.

** Note: Model 623 only: If the foot or hand control to be tested is plugged into the inlet at the head end of the table, disconnect harness from J7 on main PC board.*



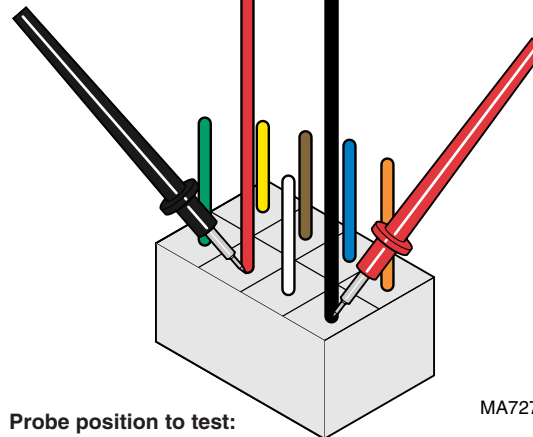
Foot / Hand Control Test
Step 2: Set meter to Ω .

Foot / Hand Control Test

Step 3: Place one meter probe on black wire (*common*) of foot / hand control harness.

Place other meter probe on the wire that corresponds to the switch to be tested:

<u>Switch</u>	<u>Wire Color</u>
Base Up	white
Base Down	red
Back Up	green
Back Down	orange
Auto Return	blue
Stop	brown



Probe position to test:
Base Down switch

MA727300i

With switch 'untripped'...

Meter Reading	Status	Required Action
Any resistance reading		Replace switch / switch membrane.
OL		Switch is good. Perform next check.

With switch 'tripped'...

Meter Reading	Status	Required Action
less than or = to 5 ohms		Switch is good. Perform next check.
OL		Replace switch / switch membrane.

Models:
Serial Numbers:

223 (all)
All

623 (all)
All

Foot / Hand Control

Component Testing & Repair

Foot / Hand Control - continued

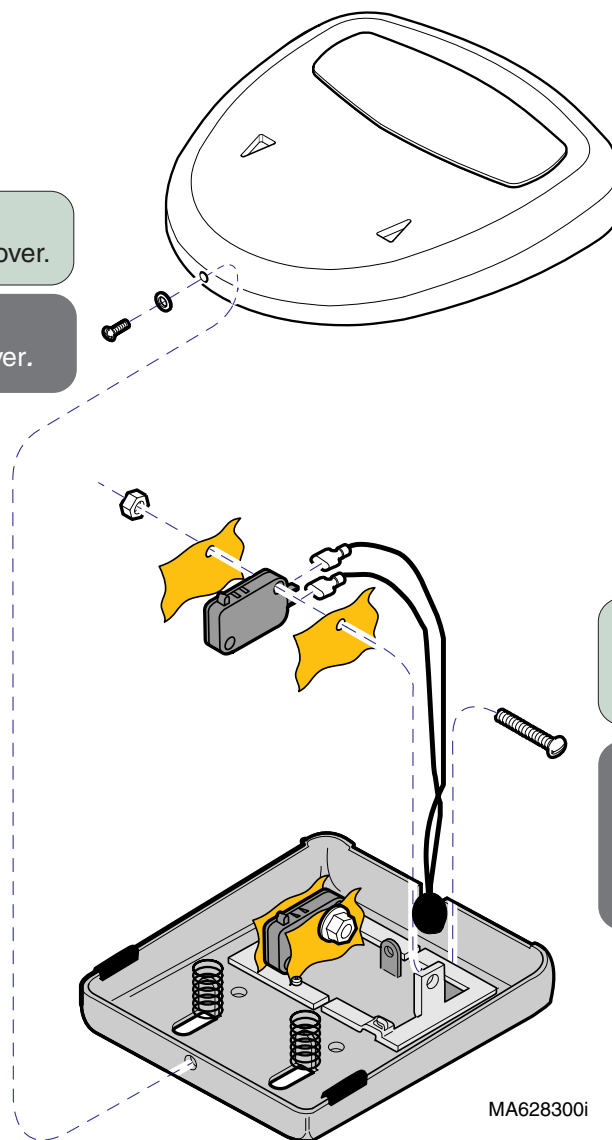
Foot Switch Replacement - 222 / 622

Removal

Step 1: Remove cover.

Installation

Step 2: Install cover.



MA628300i

Removal

Step 2: Remove switch.
Disconnect wires.

Installation

Step 1: Install switch.
Connect wires.

Note: Be sure insulating material is in place.

Component Testing & Repair

Foot / Hand Control - continued

Foot Switch Replacement - 223 / 623*

* Old-style Foot Control

Installation

Step 3: Connect coil cord & pedal switch wire harness to PC board.

Removal

Step 3: Disconnect coil cord & pedal switch wire harness from PC board.

Removal

Step 1: Disconnect coil cord from table. Remove strain relief clamp.

Installation

Step 5: Install strain relief clamp. Connect coil cord to table.

Removal

Step 2: Remove four screws. Separate top section.

Installation

Step 4: Install top section.

Installation

Step 2: Insert switch wires into connector. Connect wire harness to PC board.

Removal

Step 4: Disconnect proper wire harness from PC board. Press tabs, then disconnect faulty switch wires.

Installation

Step 1: Install switch.

Removal

Step 5: Remove faulty switch.

MA633200i

Models:

Serial Numbers:

223 (-001 thru -014)

SC1000 thru present
SE1000 thru present
V2200 thru V3302

SD1000 thru present
SF1000 thru present

623 (-001 thru -006)

SL1000 thru present
V2200 thru V3302

SM1000 thru present

Foot / Hand Control

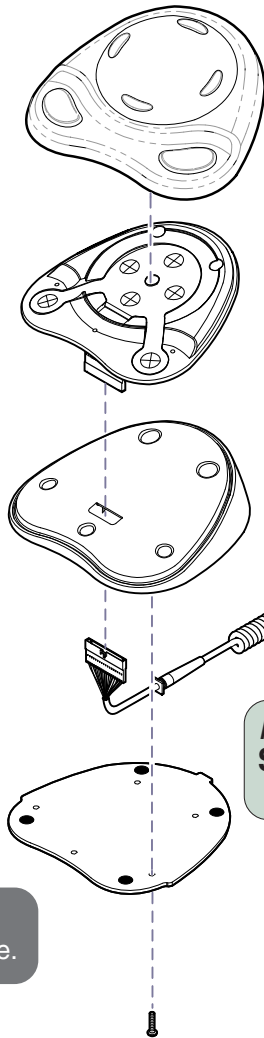
Component Testing & Repair

Foot / Hand Control - continued

Switch Membrane Replacement - 223 / 623*

* New-style Foot Control

Hand Control - 623 only



Installation

Step 1: Install touch pad onto switch panel.

Removal

Step 3: Peel touch pad off of switch panel.

Installation

Step 2: Insert control cord thru hole in base.
Connect to membrane connector.

Note: Slide strain relief block (on cord) into slot on base.

Removal

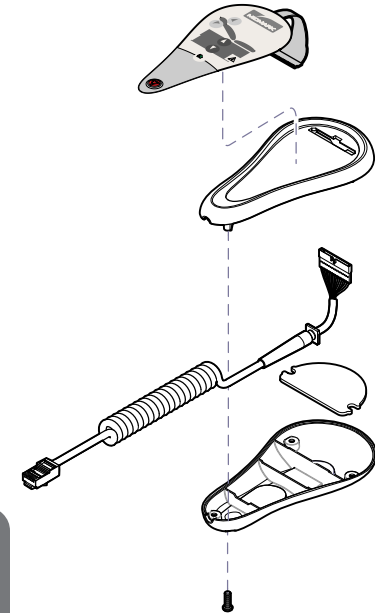
Step 2: Disconnect control cord
from membrane connector.

Removal

Step 1: Remove base plate.

Installation

Step 3: Install base plate.



MA727600i

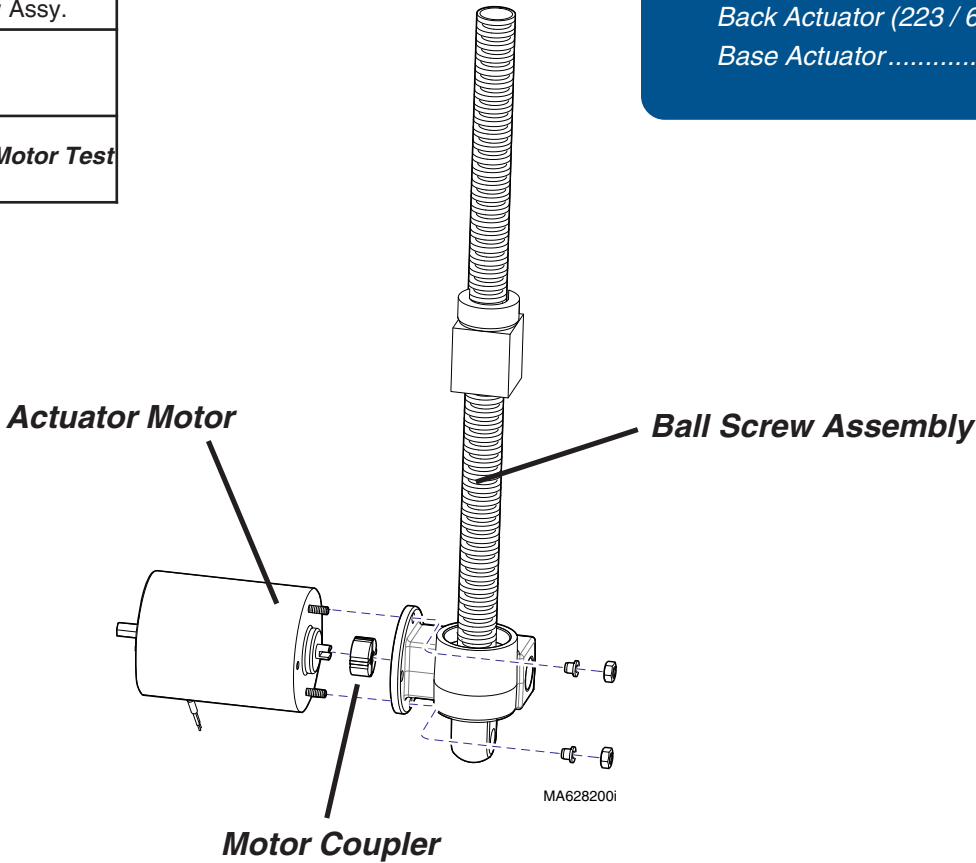
Base / Back Actuator

This illustration shows the three serviceable components of the actuator.
Use the table below to isolate the malfunctioning part.

Problem	Required Action
Motor runs, but makes grinding noise.	Clean Ball Screw threads. -or Replace Ball Screw Assy.
Motor runs, but table does not move.	Inspect / replace Motor Coupler.
Motor does not run.	Perform Actuator Motor Test

Go To Page:

Base / Back Actuator	
Actuator Motor Test	B-12
Replacement:	
Base Actuator	B-13
Back Actuator (223 / 623)	B-15
Wiring Diagrams	D-1
Exploded View / Part Numbers:	
Back Actuator (223 / 623)	E-12
Base Actuator	E-21



Component Testing & Repair

Base / Back Actuator - continued

Actuator Motor Test



Caution

Unplug power cord before removing PC Board cover.

Actuator Motor Test

Step 1: Disconnect actuator wires from PC Board.

[Base Actuator: J2 & J3]

[Back Actuator: J4 & J5 (223 / 623 only)]

Note: Refer to next page to access PC Board.

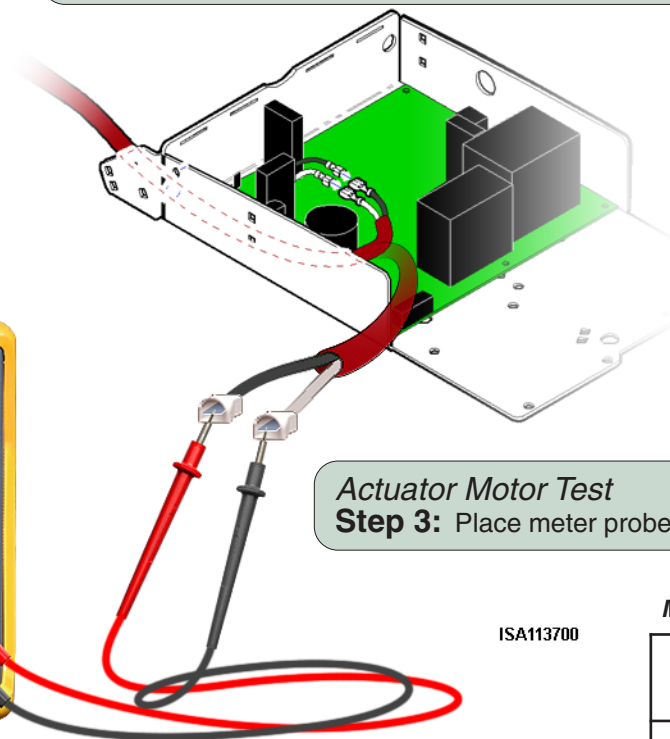
Actuator Motor Test

Step 2: Set meter to 200 Ω .



Actuator Motor Test

Step 3: Place meter probes on actuator wires.



ISA113700

Meter Reading	Status	Required Action
2- 3 Ω		Motor is good. Perform next check.
0 Ω		Replace motor.

Component Testing & Repair

Base Actuator

Replacement

Access Procedures

Go To Page:

Table Shrouds

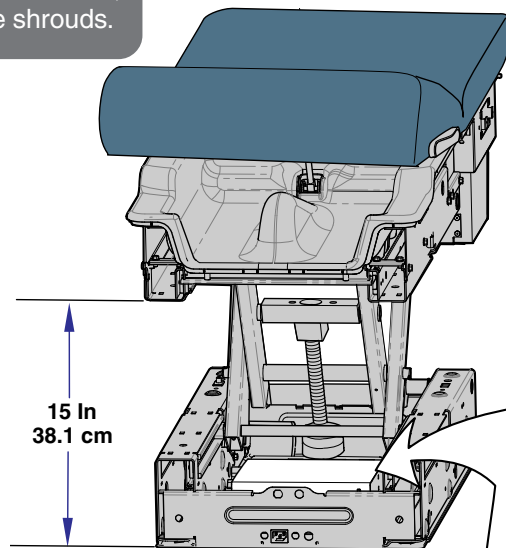
Removal / Installation C-2

Manually Raising / Lowering Table C-5

Removal (see Access Procedures)

Step 1: Remove table shrouds.

Installation (see Access Procedures)

Step 7: Replace table shrouds.**Caution**

Unplug power cord before removing PC Board cover.

Removal

Step 3: Remove PC Board cover.

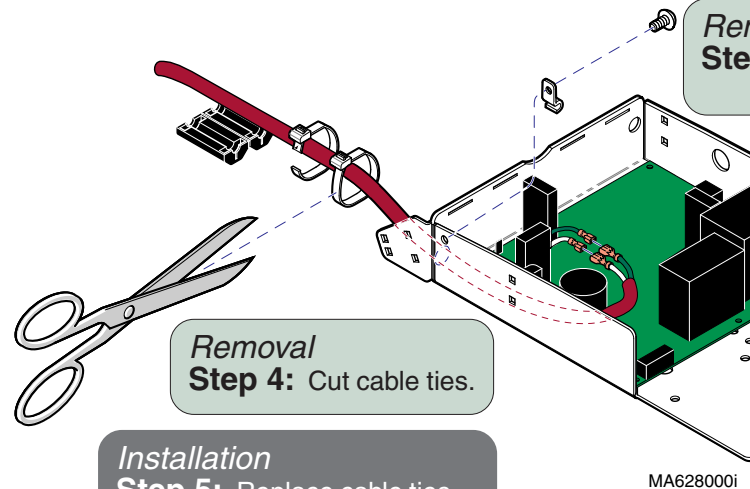
Installation

Step 6: Replace PC Board cover.

Installation

Step 4: Connect base actuator motor wires.**Note:** Clamp must be installed over stripped portion of actuator wire.

Removal

Step 2: Position table so that bottom of upperwrap is approx. 15 in. from floor.**Note:** If necessary, manually raise / lower table.
(see Access Procedures)

Removal

Step 5: Disconnect base actuator motor wires.

Removal

Step 4: Cut cable ties.

Installation

Step 5: Replace cable ties.Models:
Serial Numbers:All
All

Base / Back Actuator

B-13

Component Testing & Repair

Base Actuator - continued

Replacement - continued



Caution

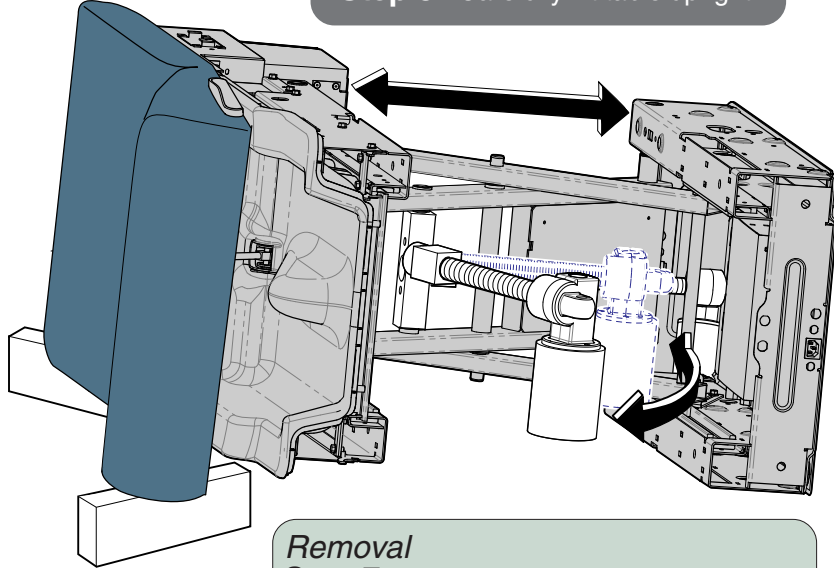
Use an assistant when laying / lifting table.
Remove all accessories (chair arms, storage pod, etc.)

Removal

Step 6: Lay table down on LH side.

Installation

Step 3: Carefully lift table upright.



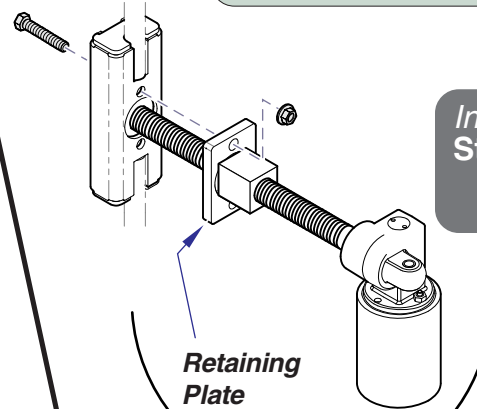
Removal

Step 7: Remove clevis pin.
Pull base out to its full extension.
Pivot actuator toward head end.

Installation

Step 2: Pivot actuator toward foot end.
Push base together.
Install clevis pin & clip ring.

Newer Models



Removal

Step 8: Remove two nuts / hex bolts.

Newer models: Remove actuator. Unscrew retaining plate.

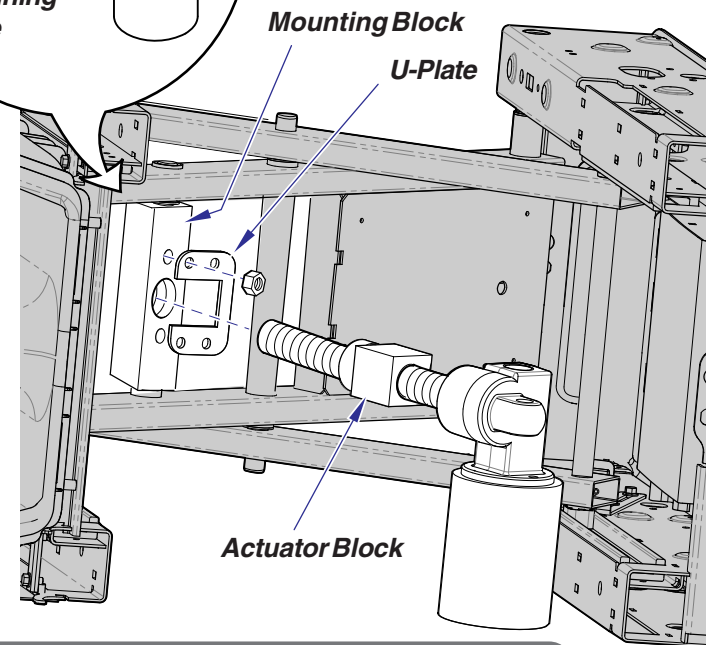
Older models: Remove U-plate.

Unscrew actuator block from mounting block.

Installation (Newer Models)

Step 1: Thread retaining plate onto actuator block.
Insert actuator thru mounting block.
Secure retaining plate to mounting block.

Older Models



Installation (Older Models)

Step 1: Thread actuator block 1/2 way down shaft.
Thread actuator block into mounting block.
Install U-plate.

MA628100i

Component Testing & Repair

Back Actuator

Replacement

Access Procedures

[Go To Page:](#)

Table Shrouds

Removal / Installation C-2

Removal (see Access Procedures)

Step 1: Remove outer shrouds.

Note: The inner and middle shrouds will drop down. It is not necessary to remove them.

Installation

Step 8: Replace shrouds.

Removal

Step 4: Cut all cable ties.

Installation

Step 6: Replace all cable ties.

Removal

Step 3: Disconnect back actuator motor wires.

Installation

Step 5: Connect back actuator motor wires.



Caution

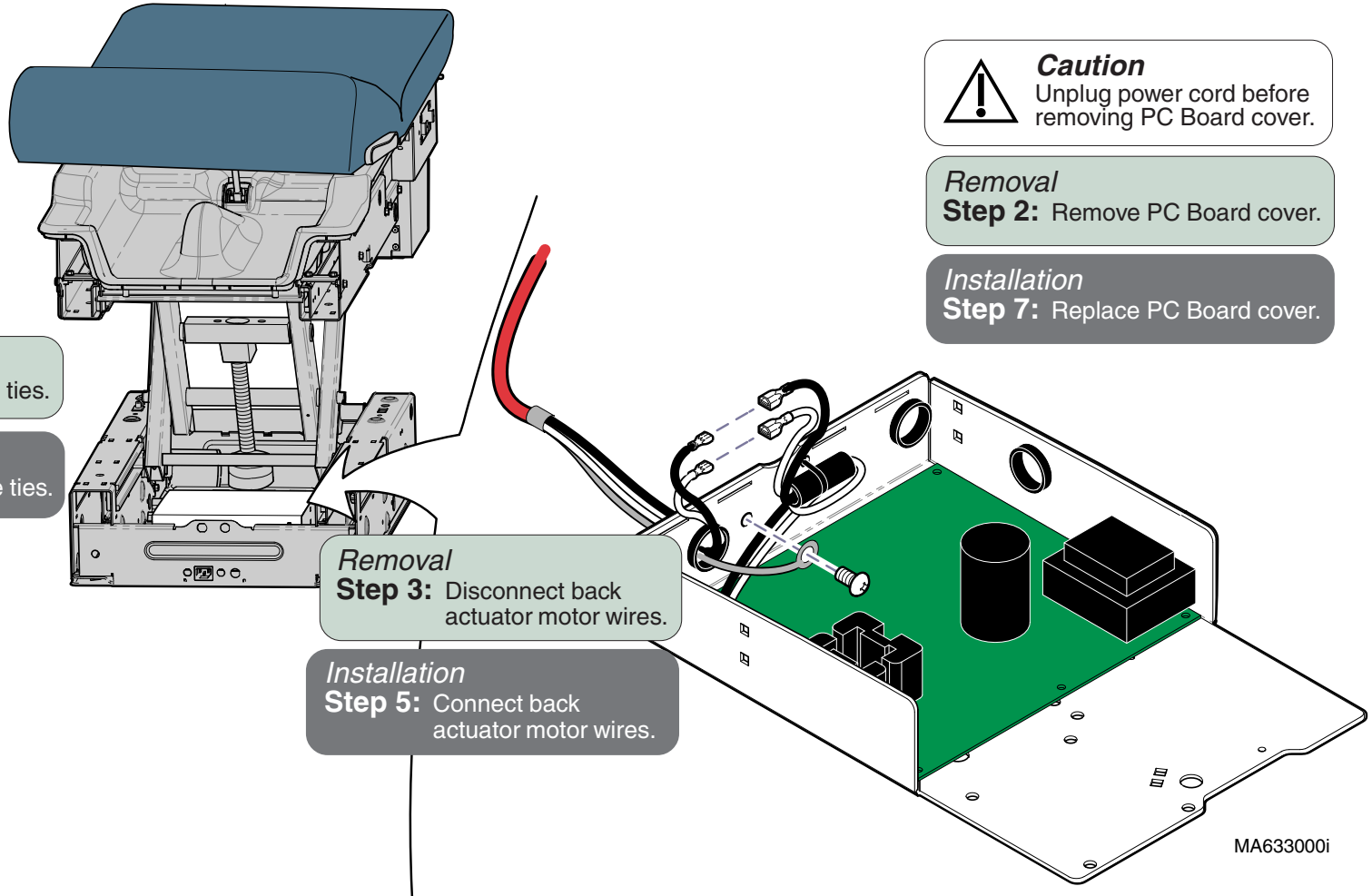
Unplug power cord before removing PC Board cover.

Removal

Step 2: Remove PC Board cover.

Installation

Step 7: Replace PC Board cover.



Models:
Serial Numbers:

223 (all)
All

623 (all)
All

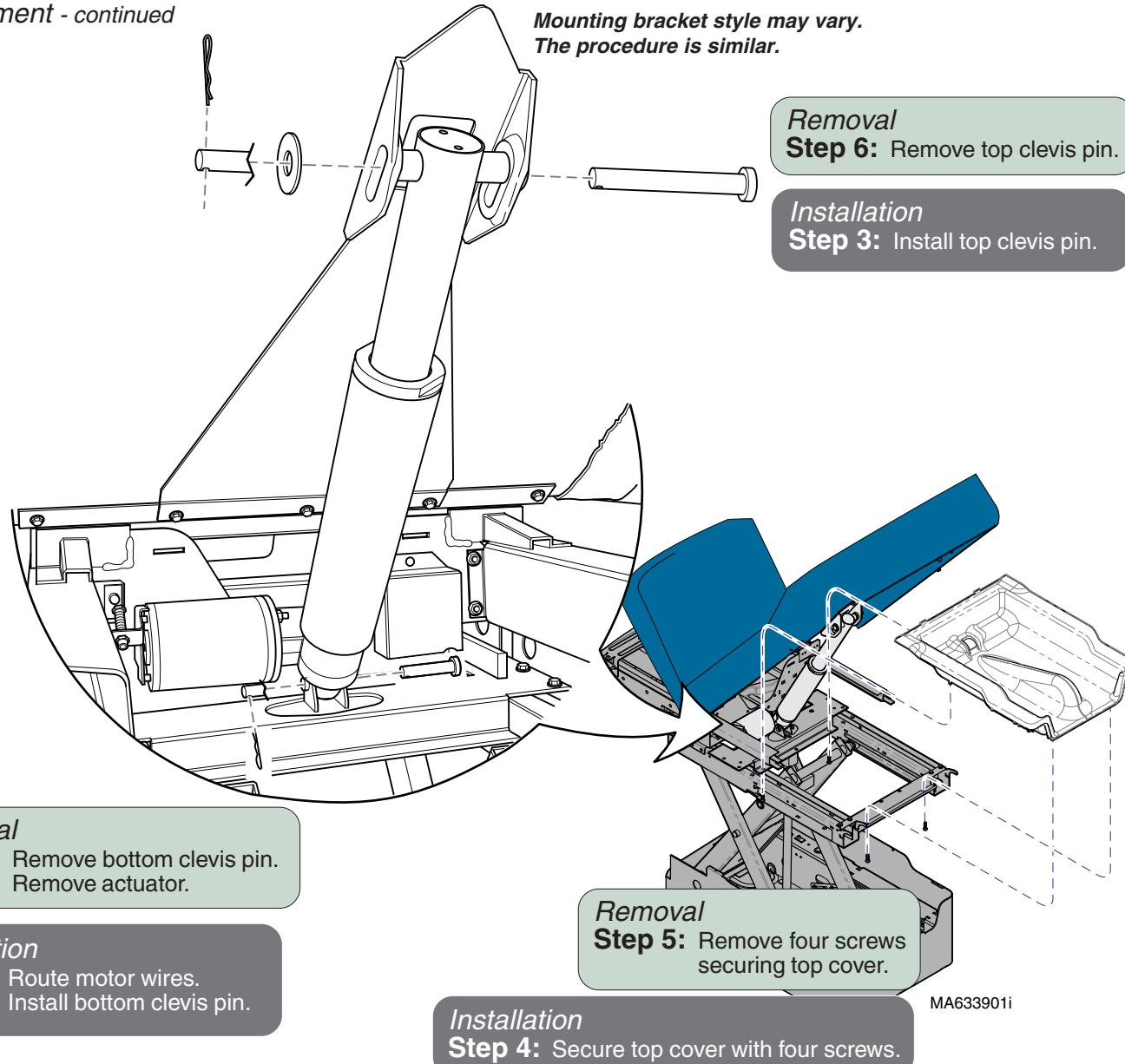
Base / Back Actuator

B-15

Component Testing & Repair

Back Actuator- continued

Replacement - continued



Component Testing & Repair

Back Release Mechanism

Back Release Handle Adjustment

Handle Adjustment

Step 1: Raise back section.

Note: If back section will not move, lift seat section then remove clevis pin from bottom of gas cylinder.

Handle Adjustment

Step 3: Rotate cam until cylinder releases.
Rotate cam back until cylinder locks in place.
Hold cam in place.

Back Release Mechanism

Go To Page:

Back Release Handle Adjustment B-17

Gas Cylinder

Replacement & Adjustment B-18

Actuator Cap Replacement B-19

Exploded View / Part Numbers E-10*

* multiple pages due to model / serial # break

Handle Adjustment

Step 4: Pivot handles down until they contact back section.

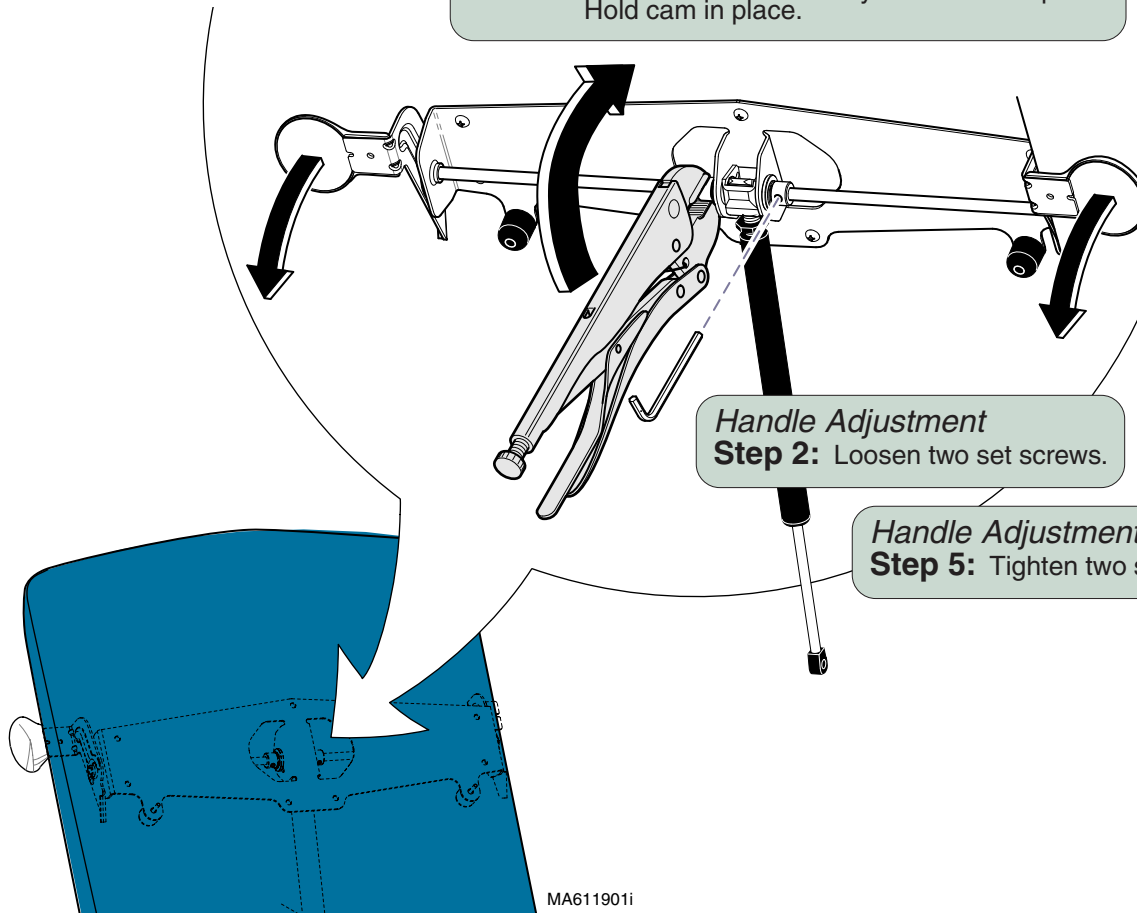
Note: Cam should not move.

Handle Adjustment

Step 2: Loosen two set screws.

Handle Adjustment

Step 5: Tighten two set screws.



MA611901i

Models:
Serial Numbers:

222 (all)
All

622 (all)
All

**Back Release
Mechanism**

Component Testing & Repair

Back Release Mechanism - continued

Gas Cylinder Replacement & Adjustment

Removal

Step 1: Lower back section all the way down.

Installation

Step 2: Hold cylinder shaft.
Extend shaft 2-3 in.
(Squeeze release handle gently)

Removal

Step 2: Remove clevis pin.

Note: If clevis pin is inaccessible,
refer to: *Top Cover Removal* below.

Installation

Step 3: Install clevis pin.
Perform *Adjustment*.

Adjustment

Step 2: Tighten jam nut.

Adjustment

Step 1: Screw cylinder in/out one turn.
Check for proper operation.
Repeat as necessary.

Note: If cylinder drifts, screw *OUT*.
If cylinder does not release, screw *IN*.

Removal

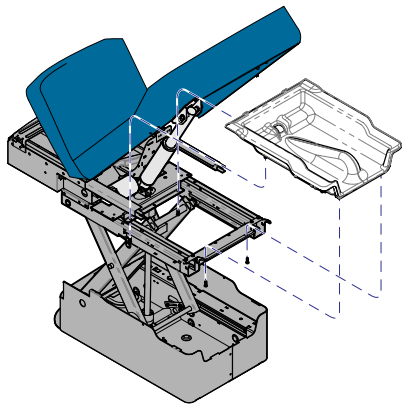
Step 3: Loosen jam nut.
Unscrew cylinder.

Installation

Step 1: Screw cylinder in until
3-4 threads are exposed.

Top Cover Removal

Step 1: Lower table shrouds. (Refer to Section C)
Remove four screws.
Raise top cover to access clevis pin.



MA607602i

Component Testing & Repair

Actuator Cap

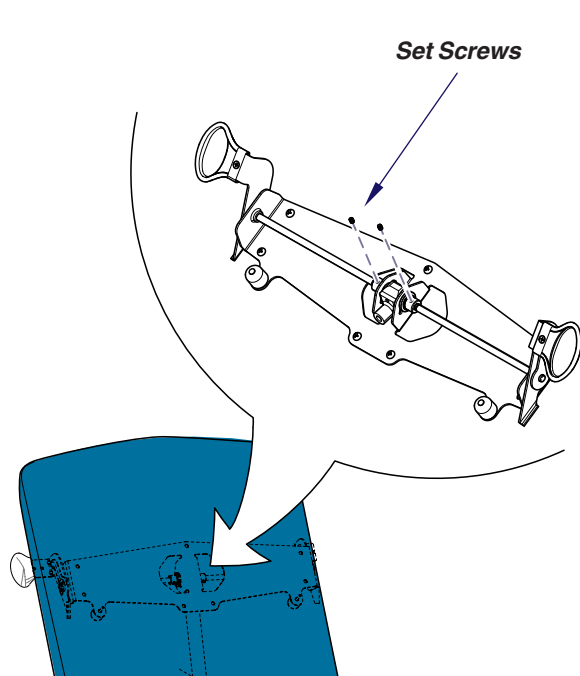
Replacement (Remove)

Removal

Step 1: Remove gas cylinder as shown on previous page.

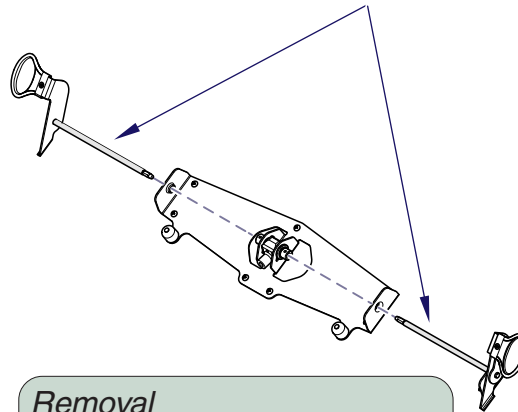
Removal

Step 2: Remove (2) set screws from cam.



MA91821

**Back
Release
Weldments**

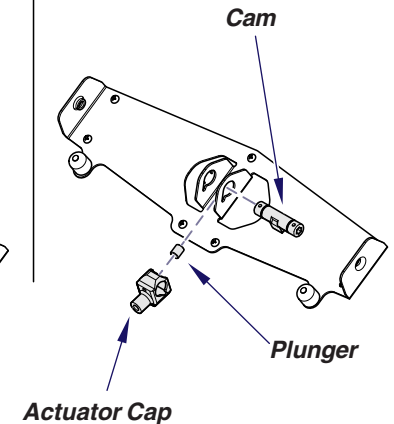
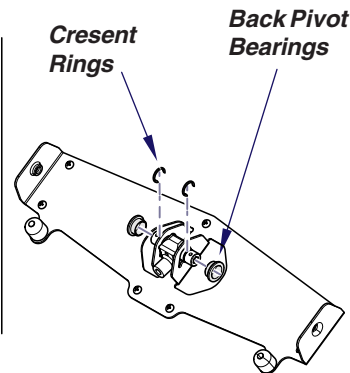


Removal

Step 3: Slide LH and RH back release weldments out of cam.

Removal

Step 4: Remove crescent ring from both sides of cam. Remove back pivot bearings from cam.



Removal

Step 5: Pull cam out of actuator cap. Remove plunger from actuator cap and reinstall in new actuator cap.

Models:
Serial Numbers:

222 (all)
All

622 (all)
All

**Actuator Cap
Replacement**

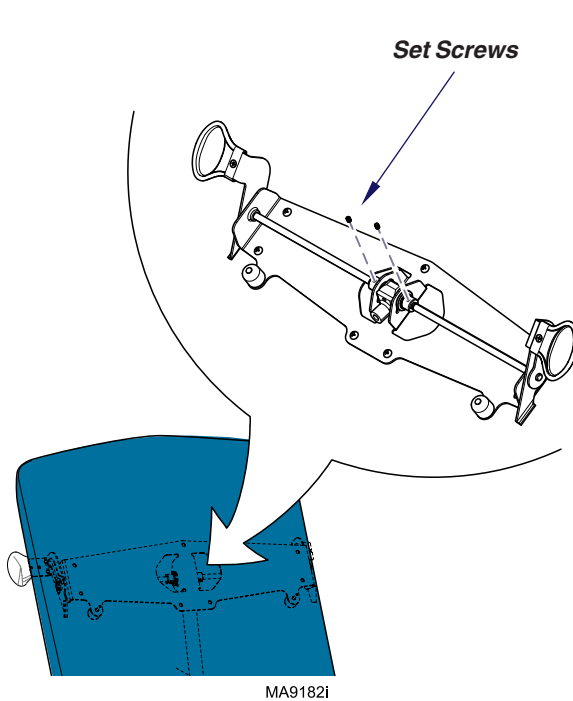
Component Testing & Repair

Actuator Cap

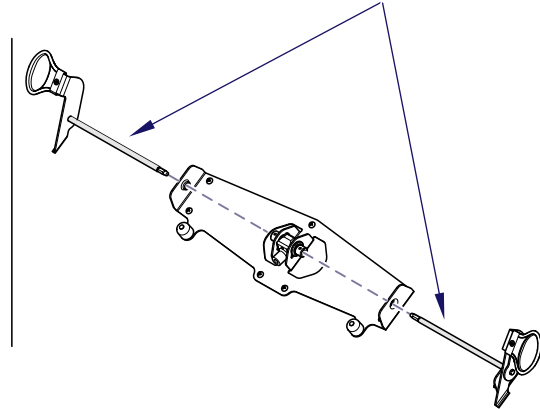
Replacement (Install)

Installation

Step 4: Install (2) set screw in cam.
Install gas cylinder.



Back
Release
Weldments

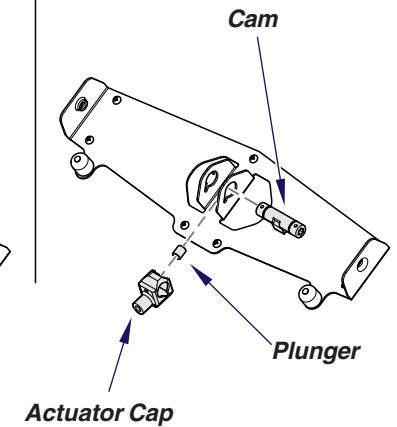
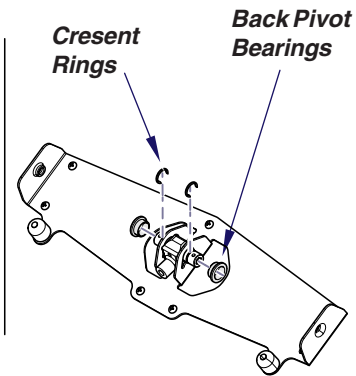


Installation

Step 3: Side LH and RH back
release weldments into cam.

Installation

Step 2: Install back
pivot bearings
on cam.
Install crescent
ring on each
side of cam.



Installation

Step 1: Install cam through
actuator cap.

Component Testing & Repair

Main PC Board

This illustration shows the location of the fuses on the Main PC Board. Use the table below to determine the required action.

Problem	Required Action
Base actuator motor does not run.	Check fuses (F1& F2, F3, F4). Perform Base Relay Test
Back actuator motor does not run.	Check fuses (F1& F2, F3, F5). Perform Back Relay Test

- 222 / 622** single function / one relay (*Base Relay*)
Fuses:
 F1 & F2 Primary Fuses (*affect all functions*)
 F3 Base Motor Fuse (*affects Base Up / Down*)
 F4 Transformer Fuse (*affects all functions*)
- 223 / 623** dual function / two relays (*Base Relay & Back Relay*)
Fuses:
 F1 & F2 Primary Fuses (*affect all functions*)
 F3 Base Motor Fuse (*affects Base Up / Down*)
 F4 Transformer Fuse (*affects all functions*)
 F5 Back Motor Fuse (*affects Back Up / Down*)

Main PC Board

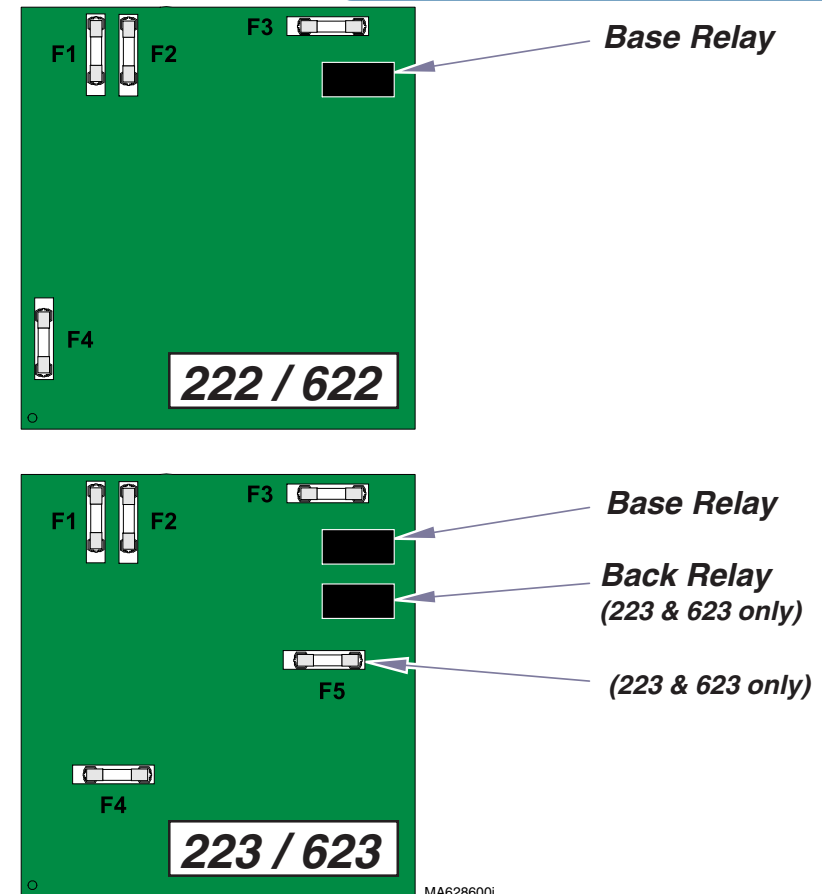
Go To Page:

Base Relay Test.....	B-22
Back Relay Test.....	B-23
Replacement	B-24
Wiring Diagrams	D-1
Part Numbers	

222 / 622 E-23

223 / 623 E-24

* multiple pages due to model / serial # break



Models:
Serial Numbers:

All
All

Main PC Board

B-21

Component Testing & Repair

[Go To Table Of Contents](#)

Main PC Board - continued

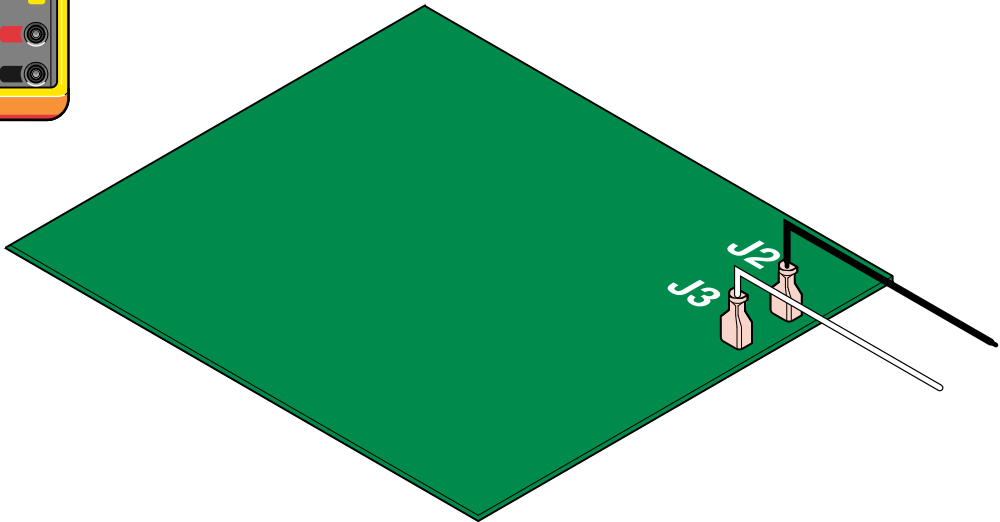
Base Relay Test

Base Relay Test
Step 1: Set meter to VDC.



Note: Wires must remain connected to PC Board to perform this test.

Base Relay Test
Step 2: Clip meter test hooks on terminals at J2 and J3.



Base Relay Test
Step 3: Activate Base Up / Down function using the foot or hand control.

Meter Readng	Status	Required Action
approx. 48 VDC		PC Board is good. Perform next check.
0 VDC		Replace PC Board.

MA718400i

Component Testing & Repair

Main PC Board - continued

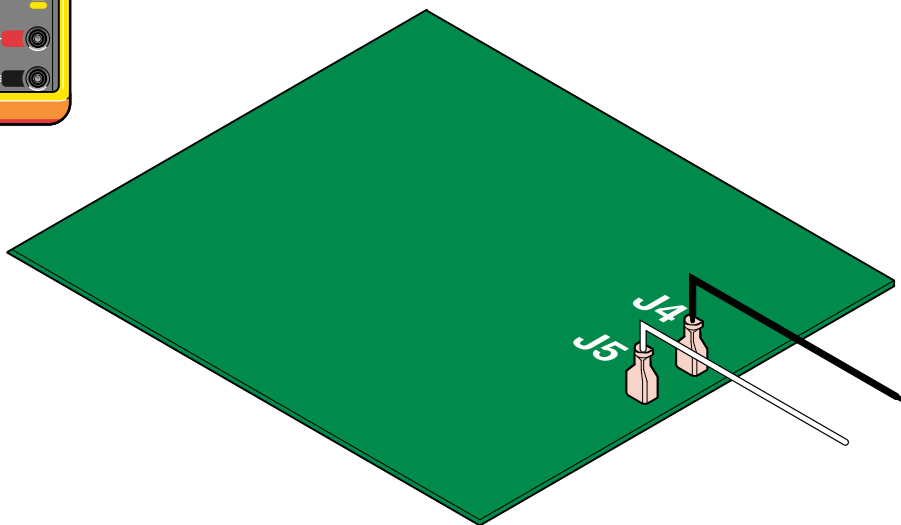
Back Relay Test

Back Relay Test
Step 1: Set meter to VDC.



Note: Wires must remain connected to PC Board to perform this test.

Back Relay Test
Step 2: Clip meter test hooks on terminals at J4 and J5.



MA718500i

Back Relay Test
Step 3: Activate Back Up / Down function using the foot or hand control.

Meter Readng	Status	Required Action
approx. 48 VDC		PC Board is good. Perform next check.
0 VDC		Replace PC Board.

Component Testing & Repair

Main PC Board - continued

Replacement

Removal (see Access Procedures)

Step 1: Remove outer shrouds.

Note: The inner and middle shrouds will drop down. It is not necessary to remove them.

Installation (see Access Procedures)

Step 4: Replace outer shrouds.



Caution

Unplug power cord before removing PC Board cover.

Removal

Step 2: Remove PC Board cover.

Installation

Step 3: Replace PC Board cover.

Access Procedures

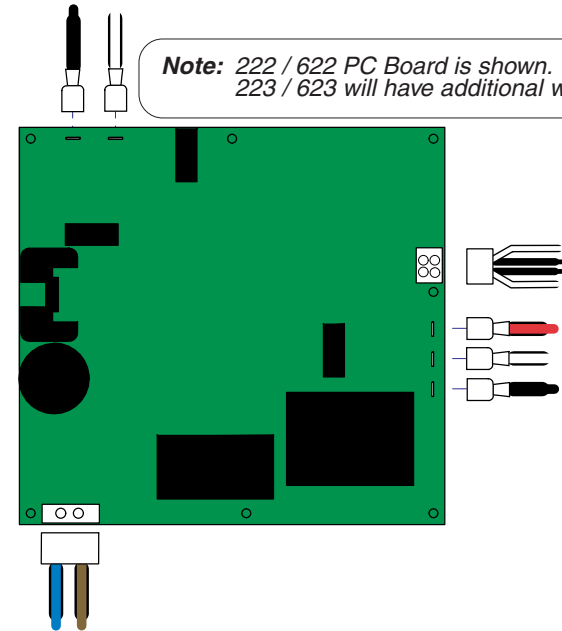
Go To Page:

Table Shrouds

Removal / Installation C-2

Manually Raising / Lowering Table C-5

Note: 222 / 622 PC Board is shown.
223 / 623 will have additional wiring.



Removal

Step 3: Disconnect ground wire.
Tag and disconnect wiring from PC Board.

Installation

Step 2: Connect ground wire.
Connect all wiring.

Note: Boards manufactured after 6/05
will beep for approximately three
seconds when table is first plugged in.

Removal

Step 4: Remove PC Board.

Tip: Push latches back, then lift off
of mounting studs.

Installation

Step 1: Install PC Board.

MA631500i

Component Testing & Repair

Drawer Heater System

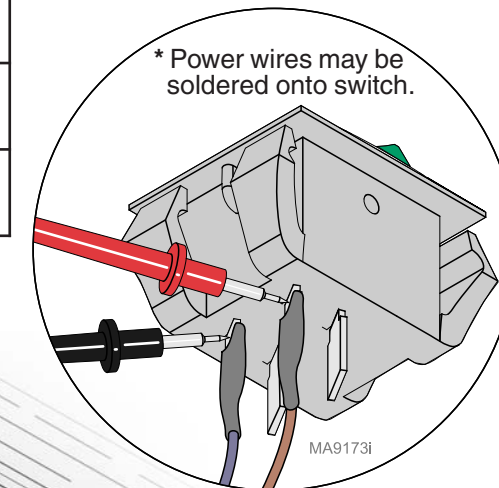
Use the table below to determine the required action.
[This table applies to all models (222 / 223 / 622 / 623)]

Problem	Required Action
Drawer heater does not warm up. Heater switch does <u>not</u> illuminate	Perform Heater Switch Test
Drawer heater does not warm up. Heater switch illuminates.	Perform Heater Plate Test
Drawer heater - OK Heater switch does <u>not</u> illuminate	Replace heater switch.

Heater Switch Test - 222 / 223



Heater Switch Test
Step 2: Set meter to 200 VAC.



Heater Switch Test
Step 1: Remove heater switch.
 * Disconnect two incoming power wires.

Heater Switch Test
Step 3: Place meter probes on incoming power wires.

Meter Reading	Status	Required Action
approx. 115 VAC		Replace switch.
0 VAC		Switch OK. Check connections & fuses

Models:
 Serial Numbers:

222
 All

223
 All

**Drawer Heater
 System**

B-25

Drawer Heater System

Go To Page:

Distribution Board Fuses B-2

Heater Switch Test:

222 / 223 B-25

622 / 623 B-26

Switch Replacement 622 / 623 B-27

Heater Plate Test:

222 / 223 B-28

622 / 623 B-29

Heater Plate Replacement B-30

Wiring Diagrams D-1

Part Numbers E-31*

* multiple pages due to model / serial # break

Component Testing & Repair

Drawer Heater System - continued

Heater Switch Test - 622 / 623

Access Procedures

[Go To Page:](#)

Chair Arm Brace Removal C-8



Caution

Unplug power cord before removing stirrup guide.

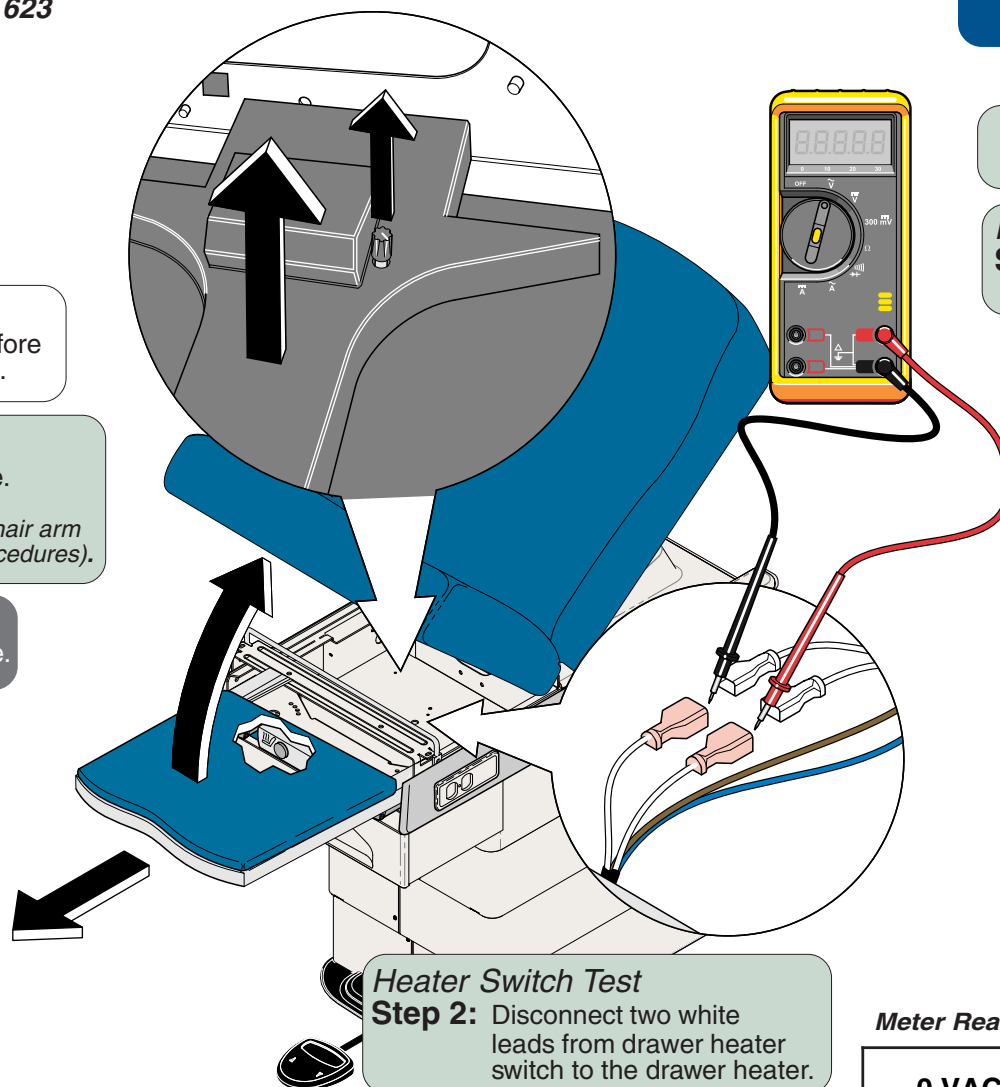
Removal

Step 1: Remove stirrup guide.

Note: If necessary, remove chair arm brace (see Access Procedures).

Installation

Step 2: Replace stirrup guide.



Heater Switch Test

Step 3: Set meter to 200 VAC.

Heater Switch Test

Step 4: Place meter probes on two white leads from switch.

Heater Switch Test

Step 5: Plug in power cord, then depress switch to ON.



Caution

Unplug power cord before re-connecting electrical leads.

Installation

Step 1: Re-connect electrical leads.

Heater Switch Test

Step 2: Disconnect two white leads from drawer heater switch to the drawer heater.

Meter Reading **Status** **Required Action**

0 VAC		Replace switch.
approx. 115 VAC		Switch OK. Check Heater Plate.

Component Testing & Repair

Drawer Heater System - continued

Heater Switch Replacement - 622 / 623

(This procedure also applies to the upholstery heater switch)

Access Procedures

Go To Page:

Chair Arm Brace Removal C-8



Caution

Unplug power cord before removing stirrup guide.

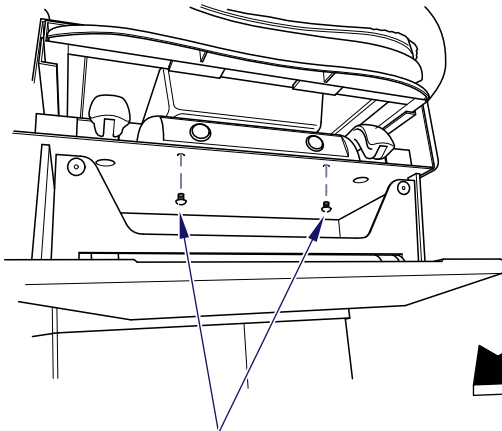
Removal

Step 1: Remove stirrup guide.

Note: If necessary, remove chair arm brace (see Access Procedures).

Installation

Step 4: Replace stirrup guide.

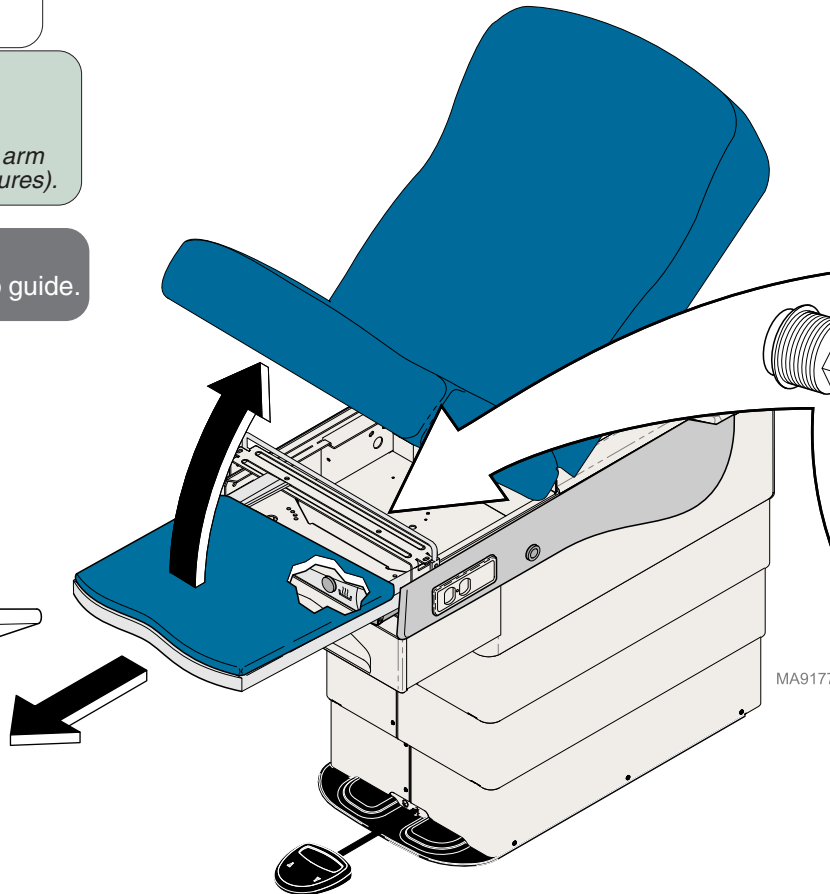


Removal

Step 3: Remove switch housing.

Installation

Step 2: Install switch housing.

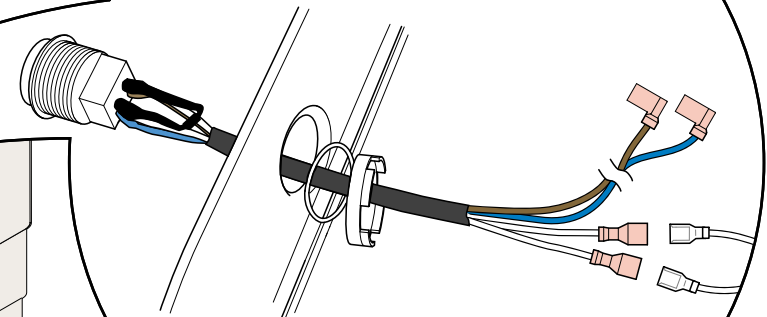


Removal

Step 2: Tag, then disconnect wires from faulty switch.

Installation

Step 3: Connect switch electrical wires.



Removal

Step 4: Remove switch assembly.

Installation

Step 1: Install switch assembly.

Models:
Serial Numbers:

622
All

623
All

Drawer Heater System

B-27

Component Testing & Repair

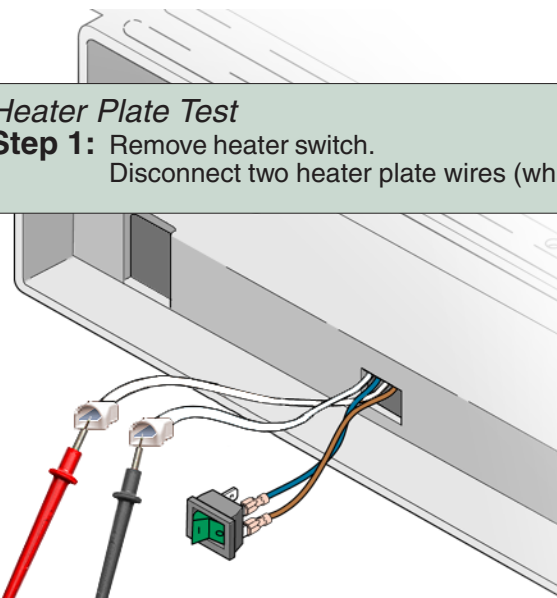
Drawer Heater System - continued

Heater Plate Test -222 / 223

Heater Plate Test
Step 2: Set meter to 2000 ($2K$) Ω .



Heater Plate Test
Step 1: Remove heater switch.
 Disconnect two heater plate wires (white).



ISA114200

Heater Plate Test
Step 3: Place meter probes on heater plate wires.

Meter Reading	Status	Required Action
approx. 360Ω		Heater plate is good.
0Ω		Replace heater plate.

Component Testing & Repair

Drawer Heater System - continued

Heater Plate Test -622 / 623


Caution

Unplug power cord before removing stirrup guide.

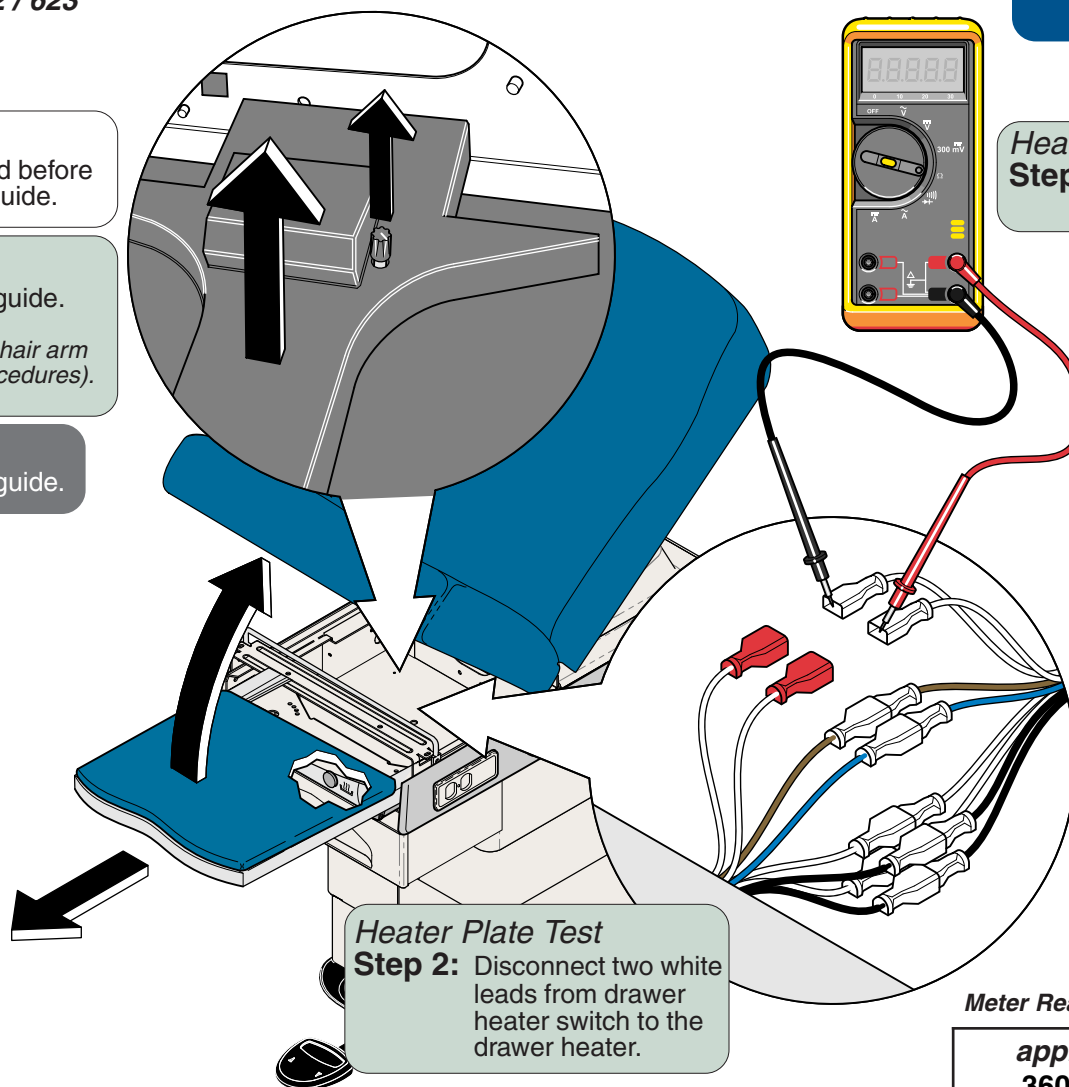
Removal

Step 1: Remove stirrup guide.

Note: If necessary, remove chair arm brace (see Access Procedures).

Installation

Step 2: Replace stirrup guide.


[Access Procedures](#)
Go To Page:

Chair Arm Brace Removal C-8

Heater Plate Test

Step 3: Set meter to 2000 (2K) Ω .

Heater Plate Test

Step 4: Place meter probes on terminals of heater plate wires.

Installation

Step 1: Re-connect electrical leads.

Heater Plate Test

Step 2: Disconnect two white leads from drawer heater switch to the drawer heater.

Meter Reading
Status
Required Action

approx.
360 Ω



Heater plate is good.
Perform next check.

0 Ω



Replace heater plate.

Models:
Serial Numbers:

622
All

623
All

**Drawer Heater
System**

B-29

Component Testing & Repair

Drawer Heater System - continued

Heater Plate Replacement

Removal

Step 1: Remove screw(s) from drawer slides.

Installation

Step 3: Install screw.

Installation

Step 3: Install drawer.

Removal

Step 2: Push LH slide lever UP and RH lever DOWN. Remove drawer.

Note: Slide levers are clear plastic.

Attention

If there is not a wire connection here, you must lower table shrouds and remove the top cover in order to disconnect / route heater plate wires.

Installation

Step 2: Route heater plate wires behind slide. Connect wires.

Removal

Step 3: Disconnect heater plate wires.

Removal

Step 4: Remove heater plate.

Installation

Step 1: Install heater plate.

MA633800i

Component Testing & Repair

Upholstery Heater System

Use the table below to determine the required action.

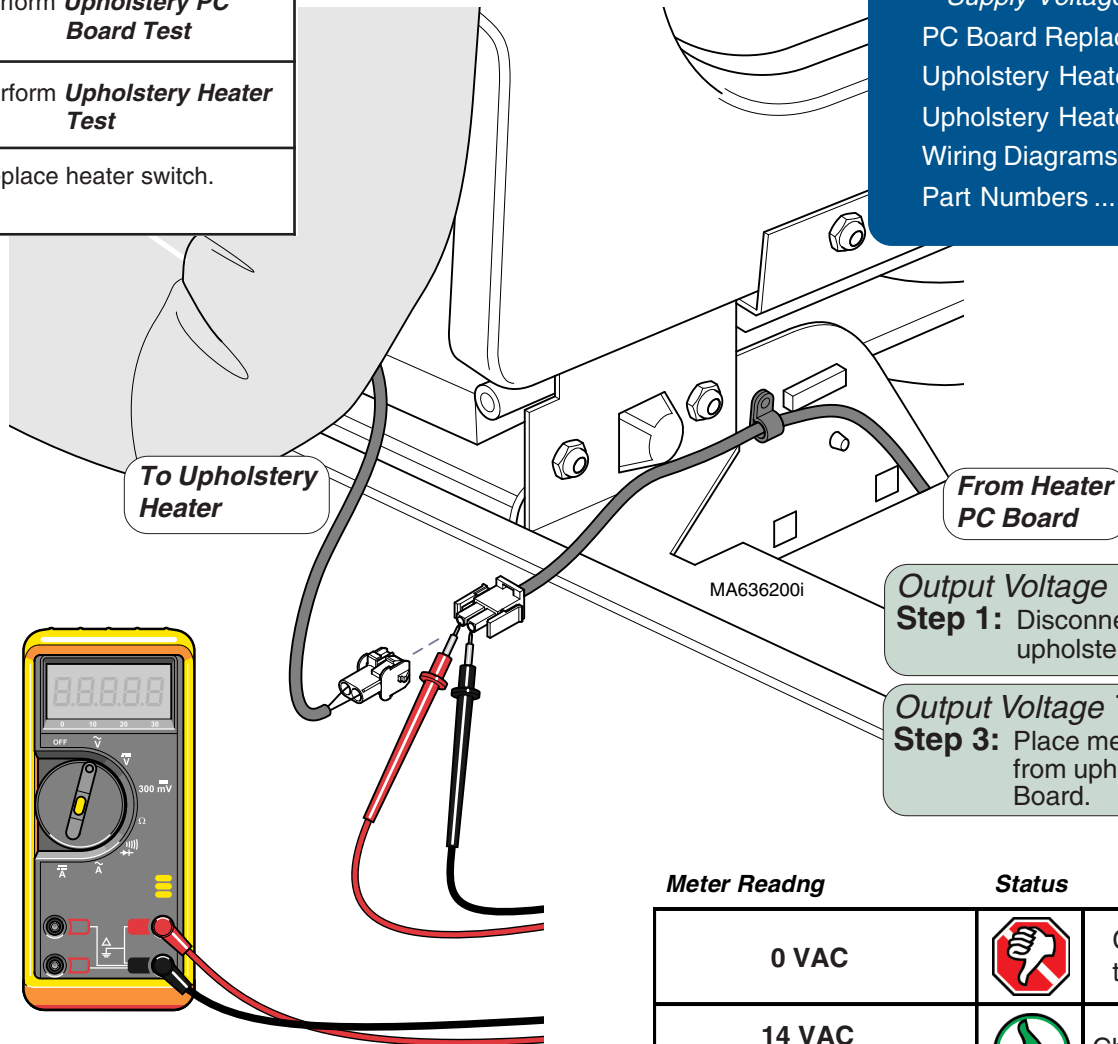
Problem	Required Action
Upholstery heater does not warm up. Heater switch does <u>not</u> illuminate	Perform Upholstery PC Board Test
Upholstery heater does not warm up. Heater switch illuminates.	Perform Upholstery Heater Test
Upholstery heater - OK Heater switch does <u>not</u> illuminate	Replace heater switch.

Upholstery Heater PC Board Test

(Output Voltage Test)

Output Voltage Test
Step 2: Set meter to 20 VAC.

Output Voltage Test
Step 4: Press Upholstery (Green)
Heater switch ON.



Upholstery Heater System

[Go To Page:](#)

Upholstery Heater PC Board Test:

Output Voltage Test	B-31
Supply Voltage Test	B-32
PC Board Replacement	B-33
Upholstery Heater Test	B-34
Upholstery Heater Switch Test	B-35
Wiring Diagrams	D-1
Part Numbers	E-33

Output Voltage Test
Step 1: Disconnect leads to
upholstery heater.

Output Voltage Test
Step 3: Place meter probes on leads
from upholstery heater PC
Board.

Meter Reading	Status	Required Action
0 VAC		Check supply voltage to heater PC board
14 VAC + /- 3 VAC		Check upholstery heater

Models: 622 All | 623 All

**Upholstery Heater
System**

Component Testing & Repair

Upholstery Heater System - continued

Upholstery Heater PC Board Test - continued

(Supply Voltage Test)



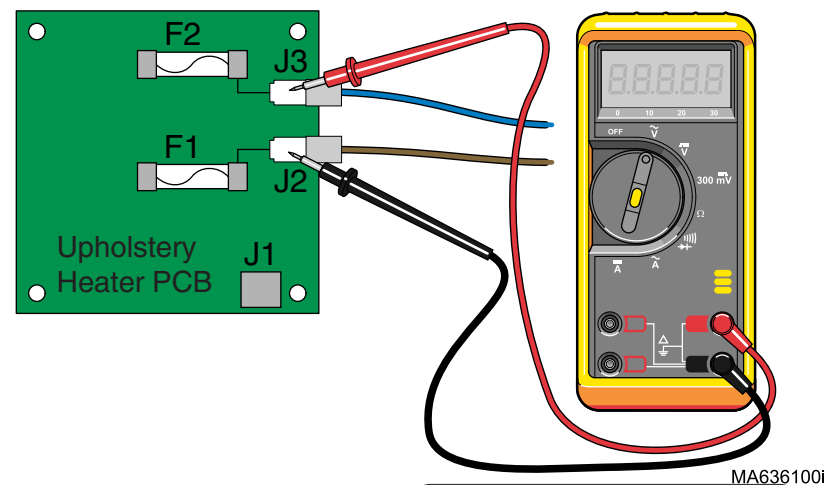
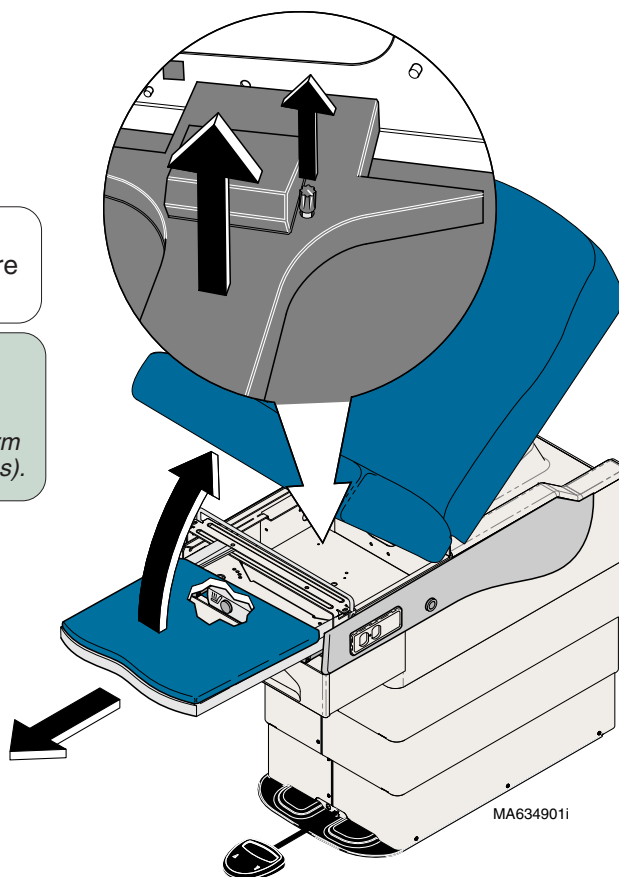
Caution

Unplug power cord before removing stirrup guide.

Supply Voltage Test

Step 1: Remove stirrup guide.

Note: If necessary, remove chair arm brace (see Access Procedures).



Supply Voltage Test

Step 2: Set meter to 200 VAC.

Supply Voltage Test

Step 3: Place meter probes on J2 & J3 of Upholstery Heater PCB and plug table into outlet.

Meter Reading

Status

Required Action

0 VAC



Check incoming power source to table.

115 VAC



Check connections & F1 / F2 fuses on PCB.

Upholstery Heater System

Models:
Serial Numbers:

622
All

623
All

Component Testing & Repair

Upholstery Heater System - continued

Upholstery Heater PC Board Replacement



Caution

Unplug power cord before removing PC Board cover.

Upholstery Heater PC Board Removal
Step 2: Depress release on standoffs and remove PC Board.

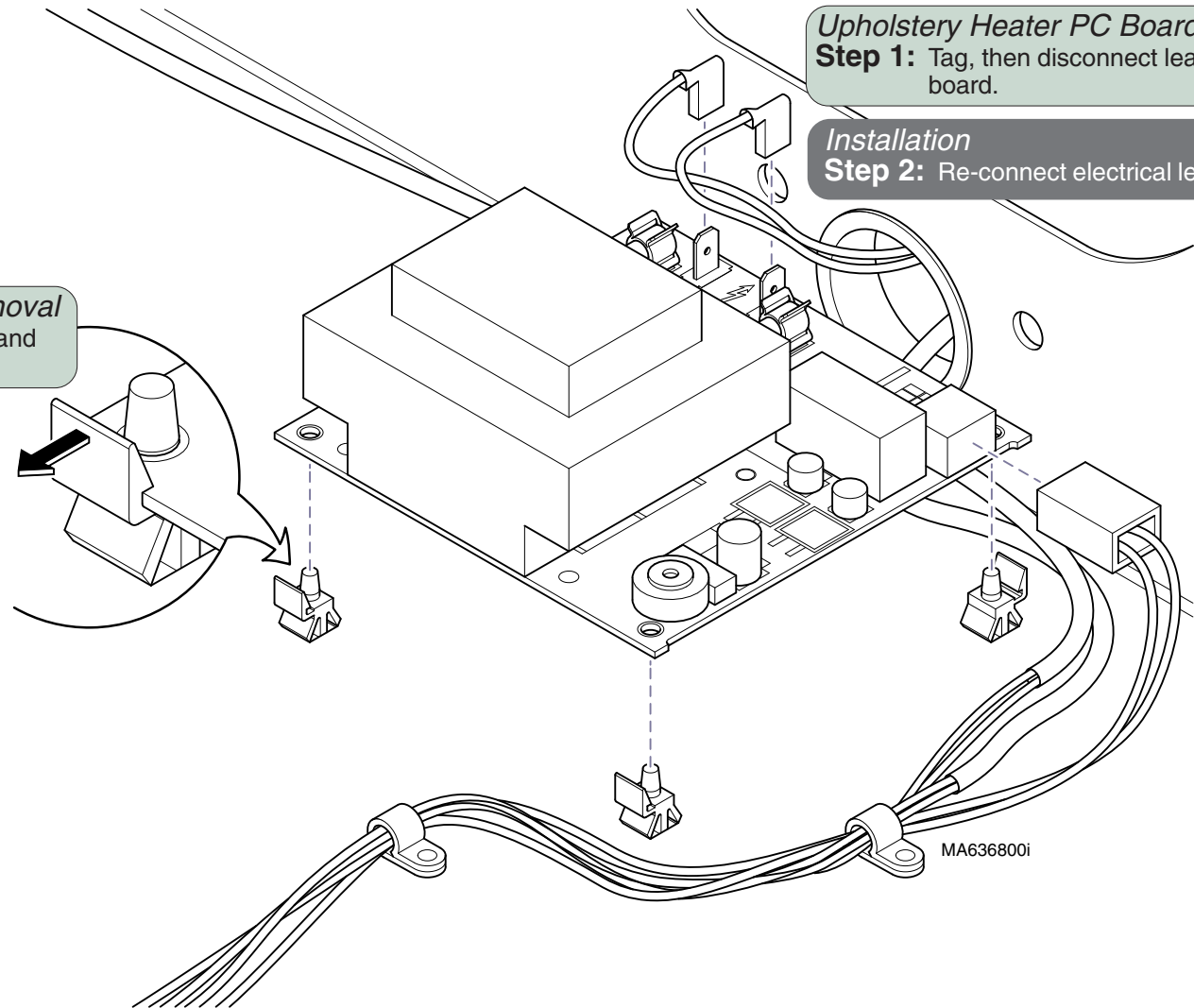
Installation

Step 1: Replace PC Board.

Upholstery Heater PC Board Removal
Step 1: Tag, then disconnect leads to PC board.

Installation

Step 2: Re-connect electrical leads.



Models:
Serial Numbers:

622
All

623
All

**Upholstery Heater
System**

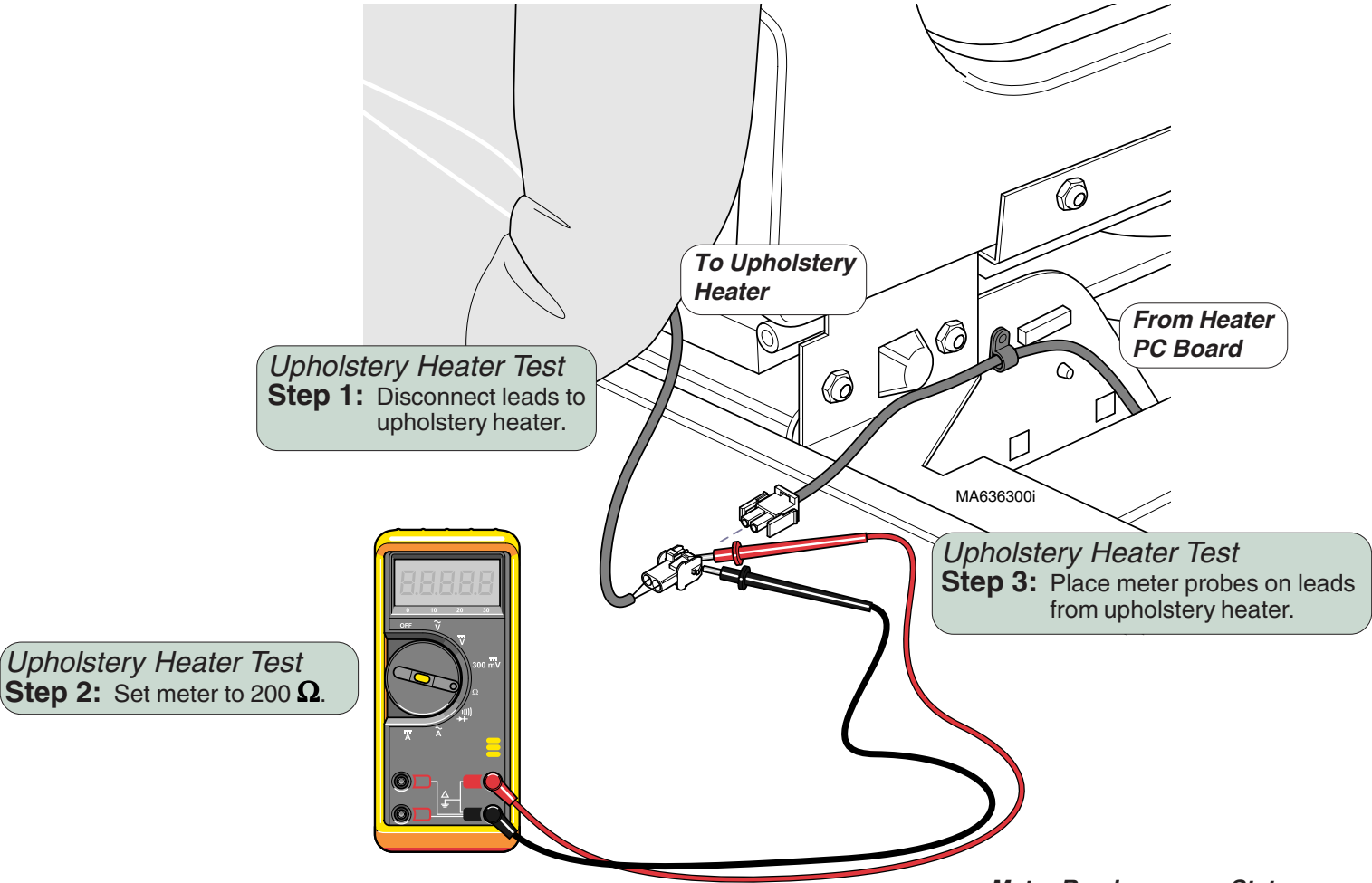
B-33

Component Testing & Repair

Go To Table Of Contents

Upholstery Heater System - continued

Upholstery Heater Test

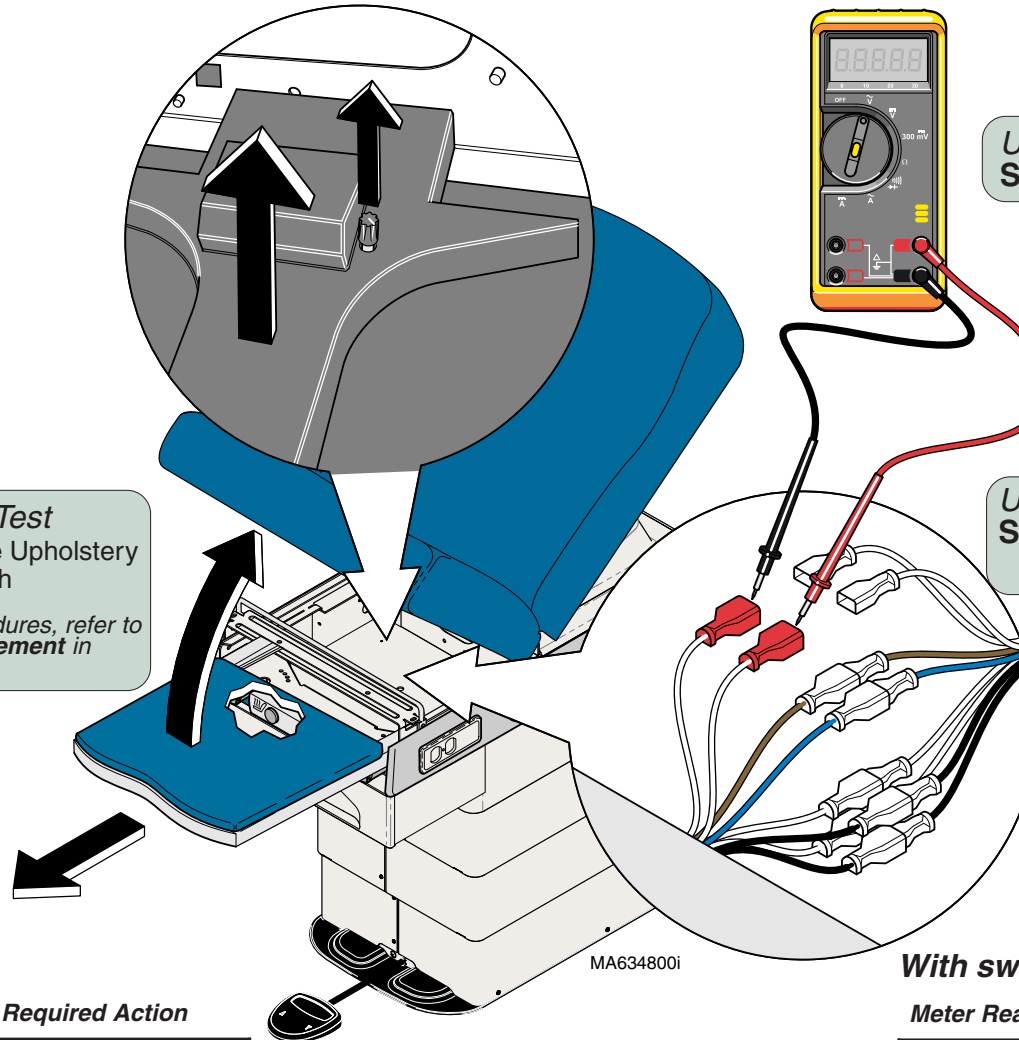


Meter Reading	Status	Required Action
0 Ω		Replace Upholstery
3 - 4 Ω		Check Upholstery Heater Switch.

Component Testing & Repair

Upholstery Heater System - continued

Upholstery Heater Switch Test



Upholstery Heater Switch Test
Step 1: Set meter to 200 Ω .

Upholstery Heater Switch Test
Step 2: Disconnect Black leads from Switch and insert meter probes.

Upholstery Heater Switch Test
Step 3: Depress & hold in the Upholstery Heater (Green) Switch

Note: For replacement procedures, refer to **Heater Switch Replacement** in **Drawer Heater System**

With switch 'tripped'...

Meter Reading	Status	Required Action
Any resistance reading		Switch is good. Perform next check.
OL		Replace switch

With switch 'untripped'...

Meter Reading	Status	Required Action
Any resistance reading		Replace switch.
OL		Switch is good. Perform next check.

Models:
Serial Numbers:

622
All

623
All

Upholstery Heater System

Access Procedures

Procedure

[Go To Page:](#)

Table Shrouds (*Remove / Install*) C-2

Manually Raising / Lowering Table C-5

Upholstered Top (*Remove / Install*):

Ritter models C-6*

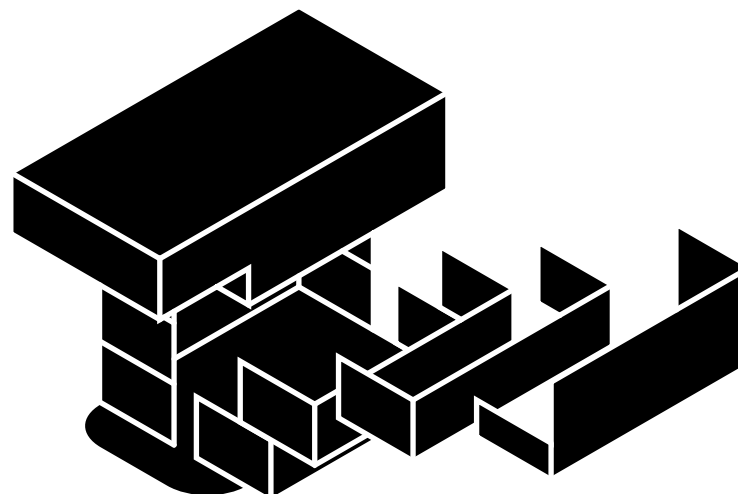
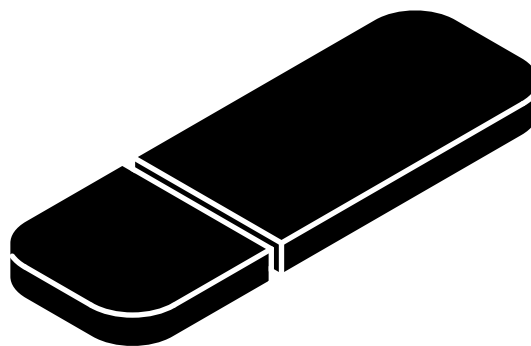
Midmark models C-7*

Chair Arm / Brace Removal C-8

Top Cover (*Remove Install*) C-9

Back Limit Switch Access C-9

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitive. ex. C-2)



Component Testing & Repair

Table Shrouds

Removal / Installation

Note

Remove all accessories (ex. chair arms) before performing this procedure.

Refer To:

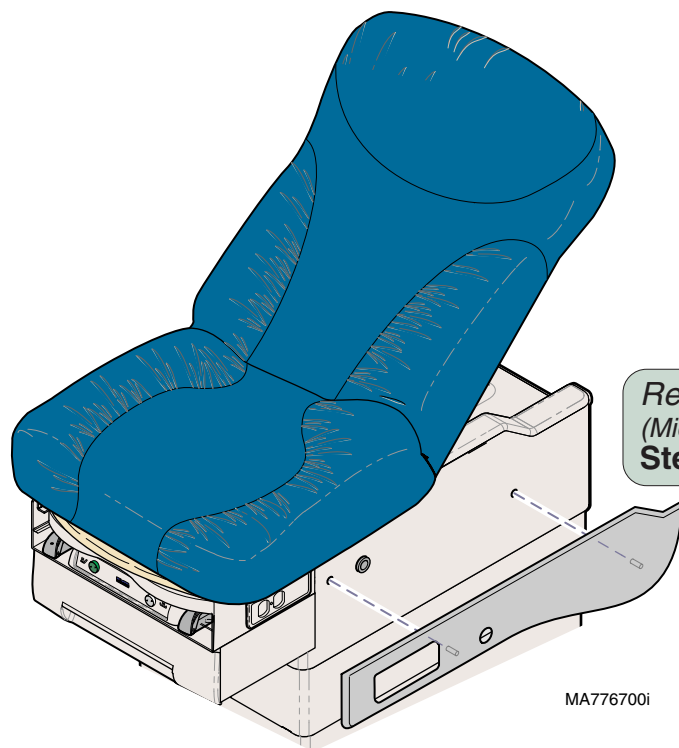
Exploded Views / Part Numbers:

Table Shrouds (Ritter models) E-14*

Table Shrouds (Midmark models) E-15*

* multiple pages due to model / serial # break

Go To Page:



Removal

(Midmark models only)

Step 1: Remove magnetic cladding.

Removal

Step 2: Remove screw(s) from drawer slides.

Note: Tables w/o drawer heater do not have screws.

Installation

Step 7: Install screw(s) in drawer slides.

Installation

Step 6: Install drawer.

Removal

Step 3: Push LH slide lever UP and RH lever DOWN. Remove drawer.

Note: Slide levers are clear plastic.

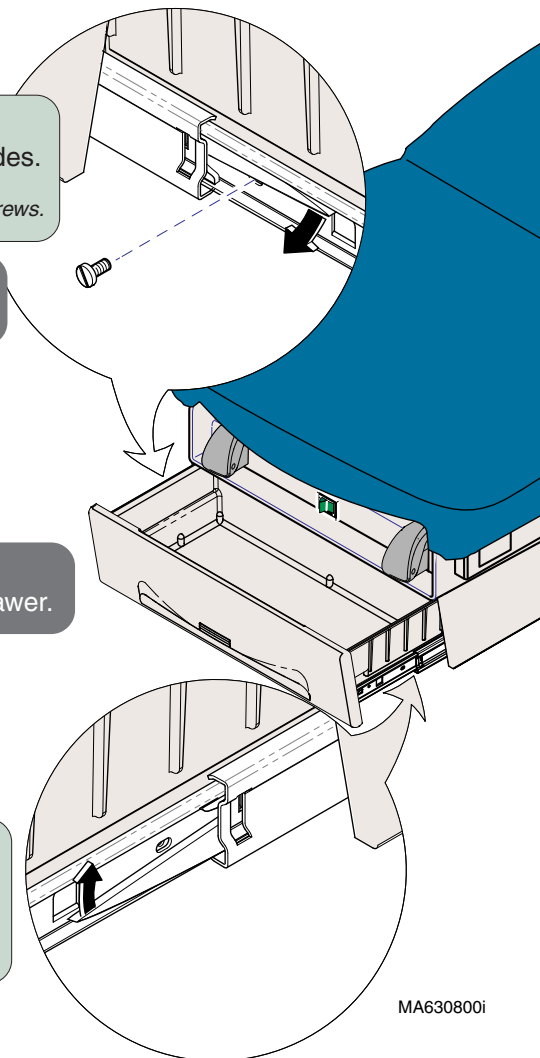


Table Shrouds

Models:
Serial Numbers:

All
All

Component Testing & Repair

Table Shrouds - continued

Removal / Installation

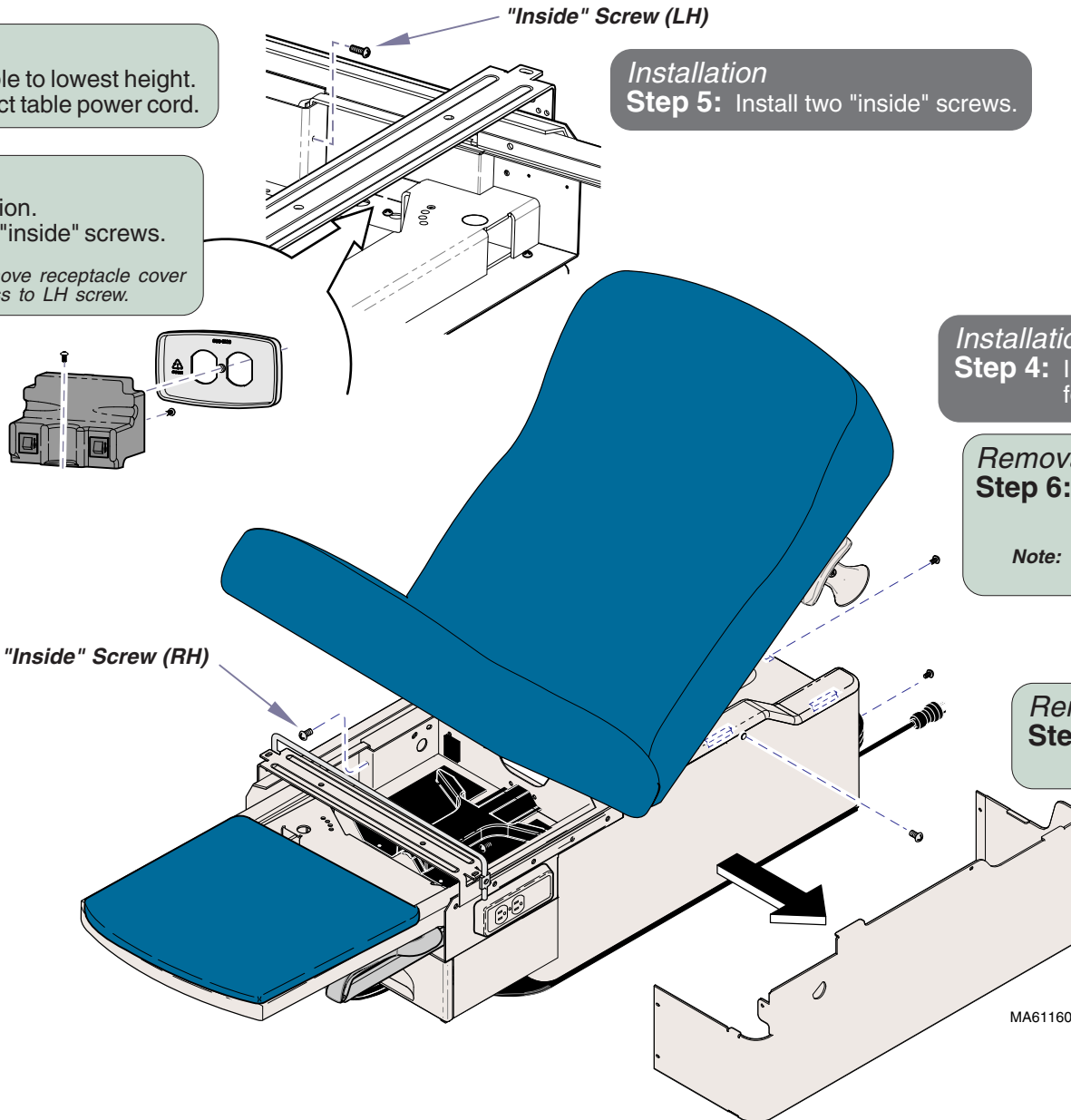
Removal

Step 4: Lower table to lowest height.
Disconnect table power cord.

Removal

Step 5: Lift seat section.
Remove two "inside" screws.

Note: If necessary, move receptacle cover for better access to LH screw.



Installation

Step 5: Install two "inside" screws.

Installation

Step 4: Install screws at head-end & foot-end of outer shrouds.

Removal

Step 6: Remove screws from head-end & foot-end of outer shrouds.

Note: Lower the drawer front to access foot-end screws.

Removal

Step 7: Remove side screw & outer shroud.
Repeat for other side.

Installation

Step 3: Position outer shroud.
Install side screw.
Repeat on opposite side.

Models:
Serial Numbers:

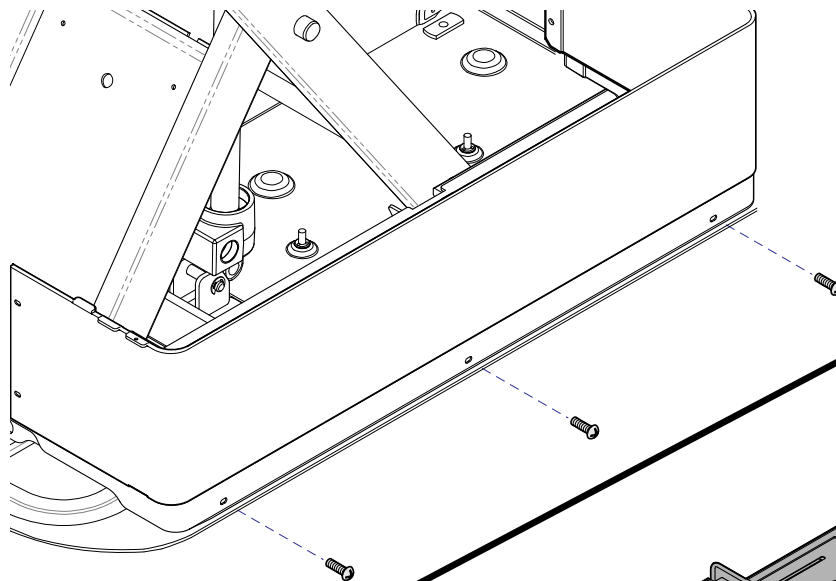
All
All

Table Shrouds

Component Testing & Repair

Table Shrouds - continued

Removal / Installation



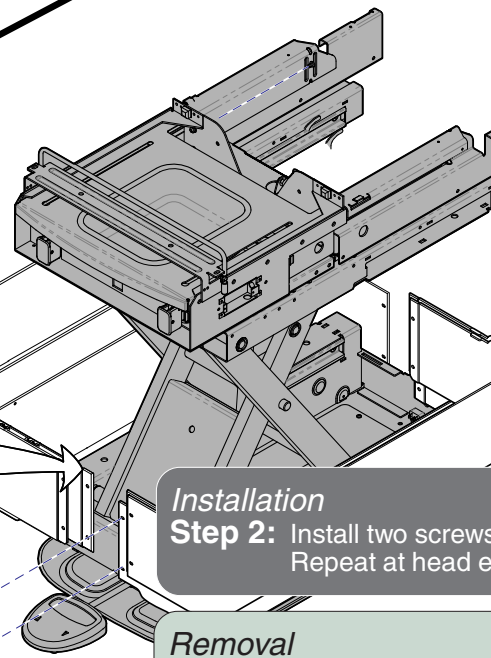
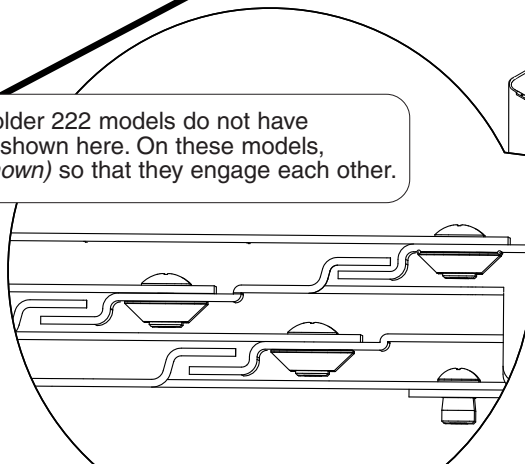
Installation

Step 1: Install six screws securing bottom of inner shrouds.

Removal

Step 8: Remove six screws securing bottom of inner shrouds.

Note: The shrouds on older 222 models do not have the offset guides shown here. On these models, align tabs (*not shown*) so that they engage each other.



Installation

Step 2: Install two screws securing each set of shrouds. Repeat at head end of table.

Removal

Step 9: Remove two screws securing each set of shrouds. Repeat at head end of table.

Note: On older 222 models, there is a wire connecting the shrouds. This must remain in place to ensure proper grounding.

Component Testing & Repair

Manually Raising / Lowering Table

Refer To:

Go To Page:

Exploded Views / Part Numbers:

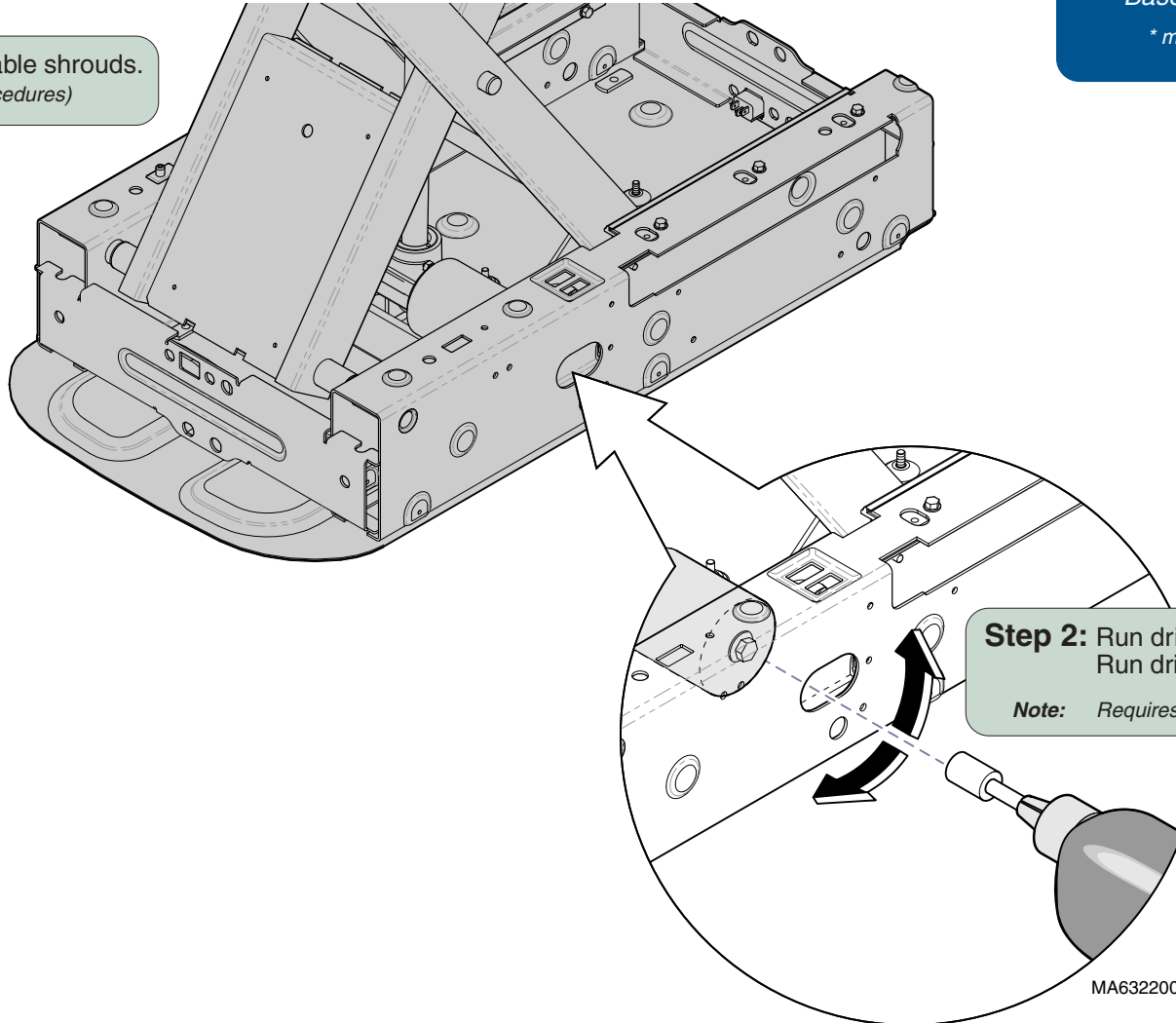
Ritter Base Components E-20*

Midmark Base Components E-21*

Base Actuator E-22

* multiple pages due to model / serial # break

Step 1: Remove table shrouds.
(Access Procedures)



Step 2: Run drill in **reverse** to **raise** table.
Run drill **forward** to **lower** table.

Note: Requires 5/16" socket w/ extension.

Models:
Serial Numbers:

All
All

Manually
Raising / Lowering

Component Testing & Repair

Upholstered Top (Ritter models)

Removal / Installation

(Soft Touch Top shown)

Attention

Seamless / Styled tops are one piece.
The replacment procedure is similar.



Caution

Hold back section in place
when performing steps 1 & 2.

Refer To:

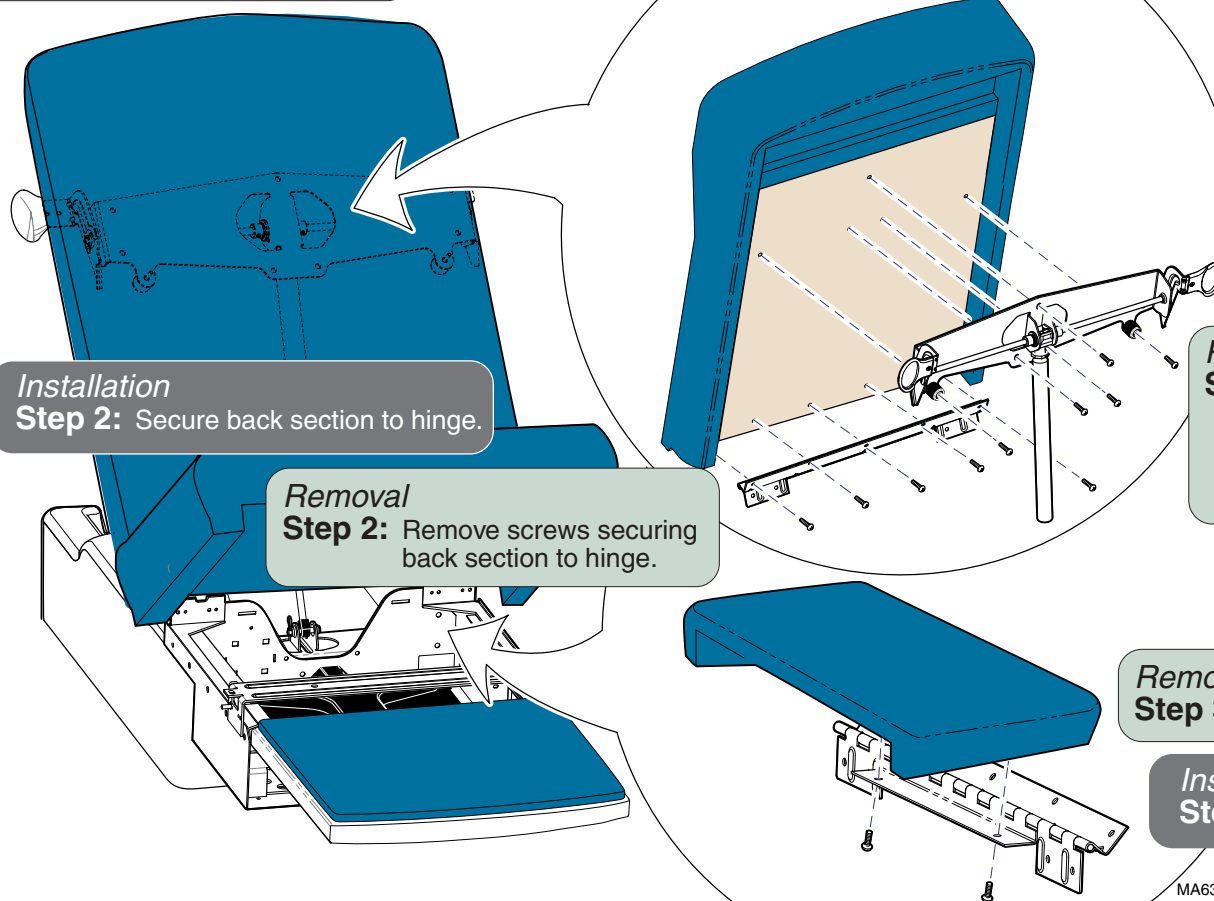
Exploded Views / Part Numbers:

Upholstery - Ritter :

Soft Touch E-6

Seamless E-7

Go To Page:



Installation

Step 2: Secure back section to hinge.

Removal

Step 2: Remove screws securing
back section to hinge.

Installation

Step 3: Secure back release bracket.

Removal

Step 1: Remove screws securing back
release bracket.

Note: The manual back model is shown.
The procedure for power back models
is similar.

Removal

Step 3: Remove seat section.

Installation

Step 1: Secure seat section.

MA632300i

Upholstered Top
(Ritter models)

Models:	222 (-001 thru -014)	223 (-001 thru -014)
Serial Numbers:	All	All

Component Testing & Repair

Upholstered Top (Ritter models)

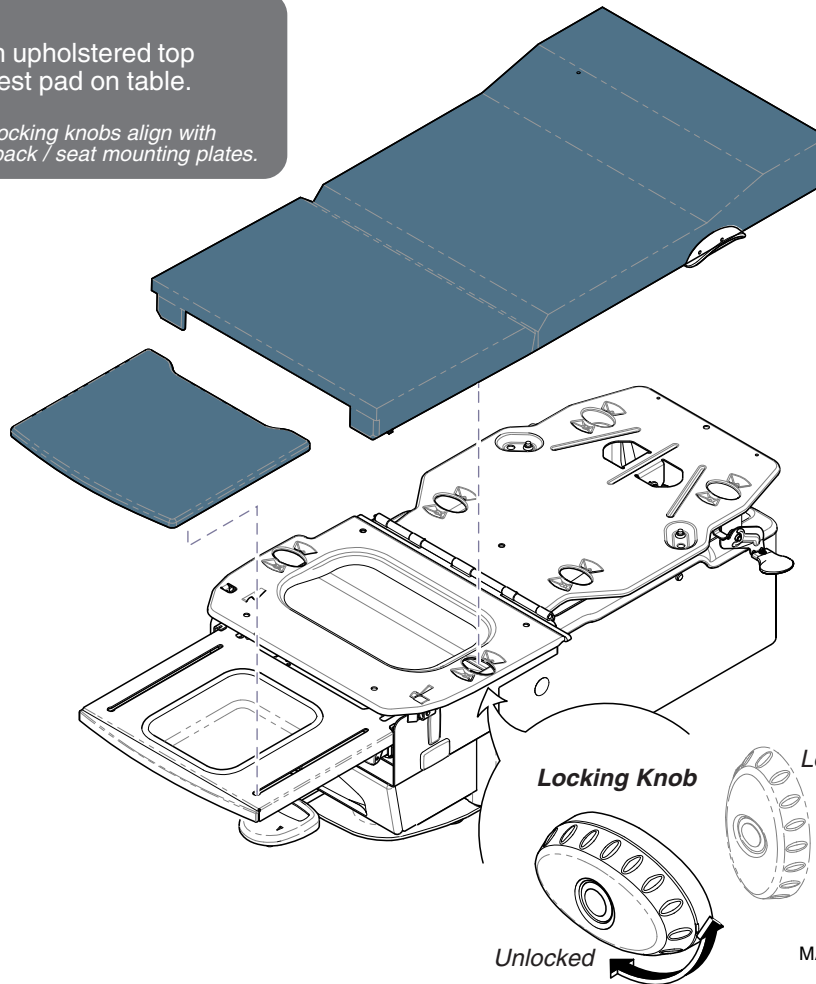
Removal / Installation

(Soft Touch Top shown)

Installation

Step 1: Position upholstered top & footrest pad on table.

Note: Be sure locking knobs align with holes in back / seat mounting plates.



Refer To:

Exploded Views / Part Numbers:

Upholstery - Ritter :

Soft Touch E-6.1

Seamless E-7.1

[Go To Page:](#)

Removal

Step 2: Remove upholstered top & footrest pad.

Removal

Step 1: Rotate all locking knobs to unlocked position.

Note: There are four locking knobs under back section, and two knobs under seat section.

Installation

Step 2: Rotate locking knobs to locked position.

Models:	222 (-015 thru -017)	223 (-015 thru -016)
Serial Numbers:	All	All

Upholstered Top
(Ritter models)

C-6.1

Component Testing & Repair

Upholstered Top (Midmark models)

Removal / Installation

Refer To:

Exploded Views / Part Numbers:

Upholstery - Midmark:

Premium E-8

Ultra-Premium E-9

Go To Page:

Removal

Step 3: Lift back section to disengage velcro, then push toward head end.

Installation

Step 1: Slide back section toward foot end to engage T-block.

Models w/ upholstery heater only

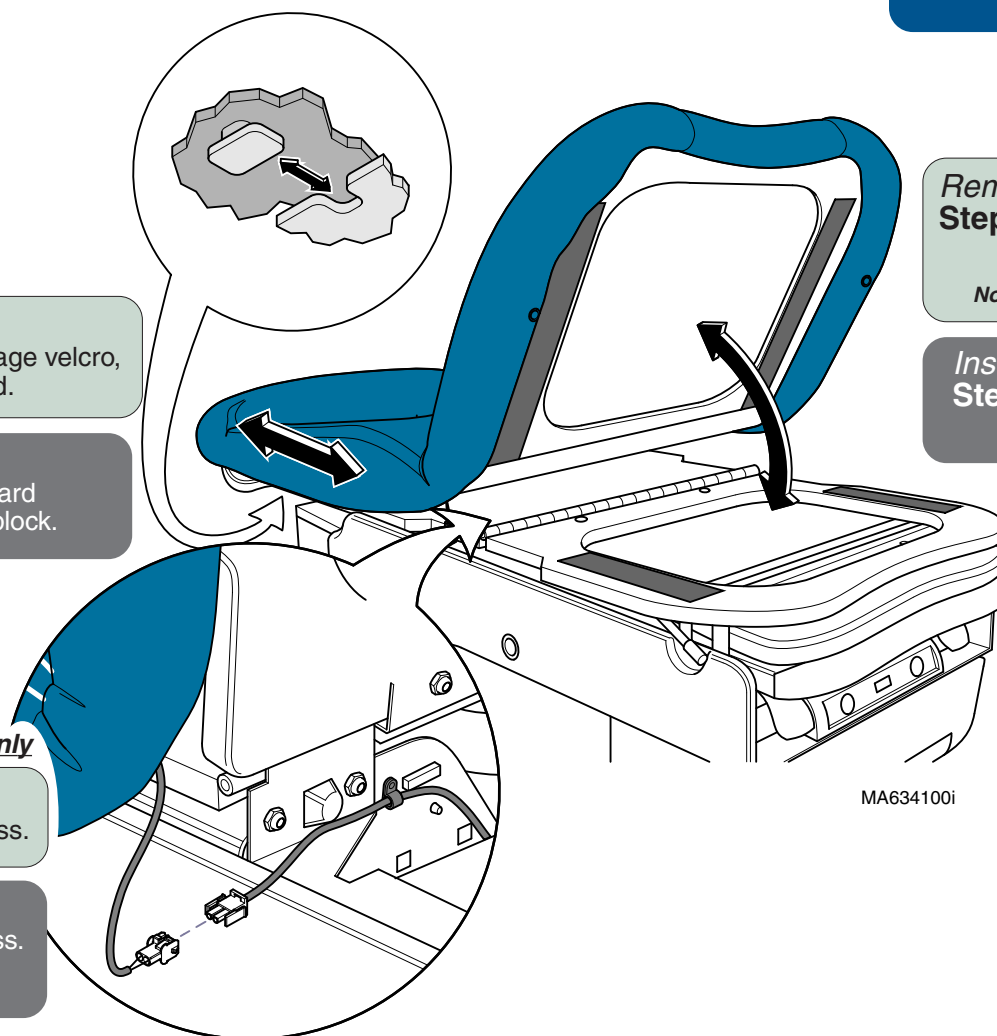
Removal

Step 1: Disconnect wire harness.

Installation

Step 3: Connect wire harness.

Note: Do not pinch wire.



Removal

Step 2: Hold mounting frame in place, then lift seat section.

Note: Upholstery is secured with velcro.

Installation

Step 2: Lower seat section and press down firmly to engage velcro.

MA634100i

Component Testing & Repair

Upholstered Top (Midmark models)

Removal / Installation

Step 2 applies only to models with optional upholstery heater.

Removal

Step 2: Disconnect upholstery heater harness.

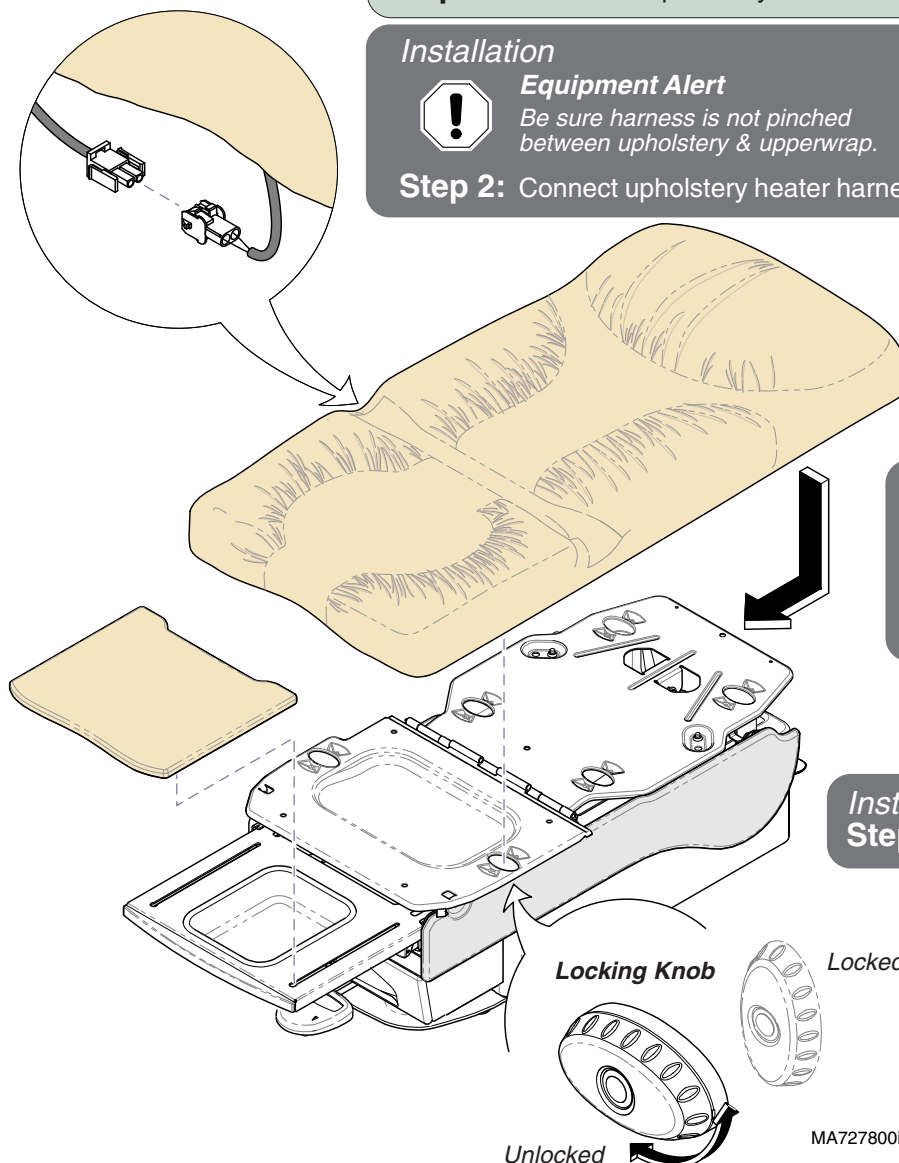
Installation



Equipment Alert

Be sure harness is not pinched between upholstery & upperwrap.

Step 2: Connect upholstery heater harness.



Removal

Step 3: Remove upholstered top & footrest pad.

Note: Slide upholstery up to remove from back support plate.

Installation

Step 1: Position upholstered top & footrest pad on table.

Note: Back support plate must slide under paper roll holder.

Be sure locking knobs align with holes in back / seat mounting plates.

Installation

Step 3: Rotate locking knobs to locked position.

Removal

Step 1: Rotate all locking knobs to unlocked position.

Note: There are four locking knobs under back section, and two knobs under seat section.

Models:	622 (-007 & -008)	623 (-007 thru -011)
Serial Numbers:	All	All

Upholstered Top
(Midmark models)

C-7.1

Component Testing & Repair

Chair Arms / Brace (optional)

Removal

Refer To:

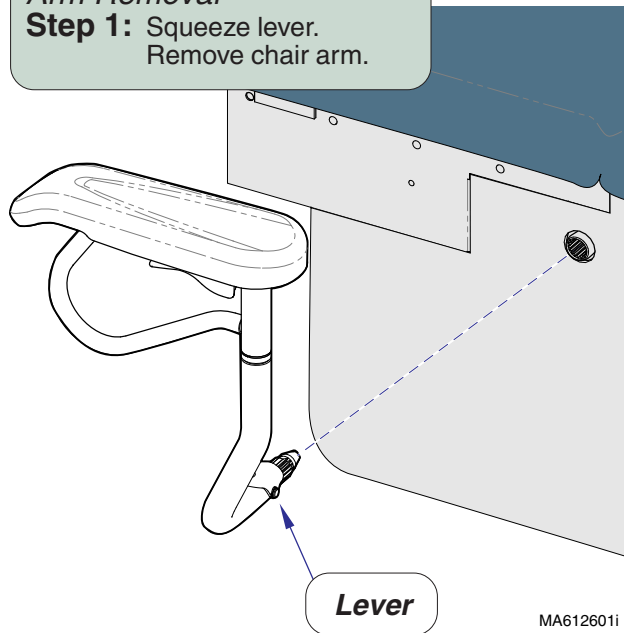
Exploded Views / Part Numbers:

Refer to Midmark Medical Accessory
Service & Parts Manual (004-0096-00)

Go To Page:

Arm Removal

Step 1: Squeeze lever.
Remove chair arm.



It may be necessary to remove the chair arm brace when performing certain procedures.

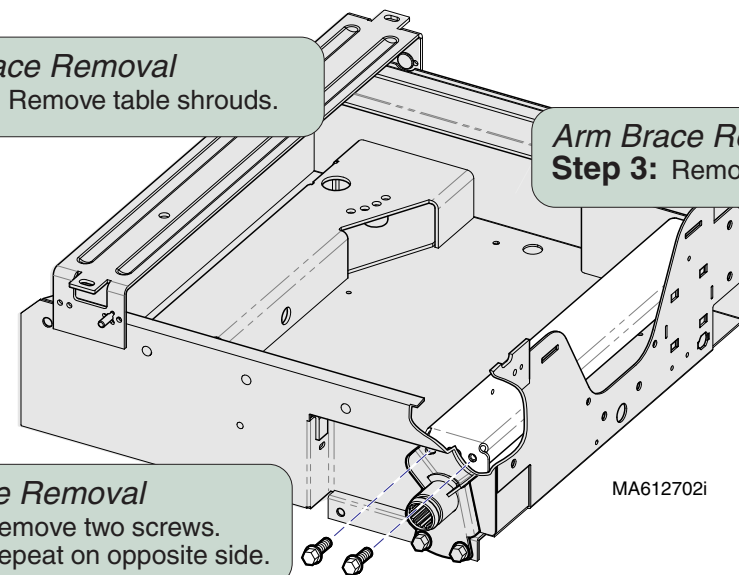
Arm Brace Removal

Step 1: Remove table shrouds.

Step 3: Remove brace.

Arm Brace Removal

Step 2: Remove two screws.
Repeat on opposite side.



Component Testing & Repair

Top Cover (Back Limit Switch Access)

Removal / Installation

Removal

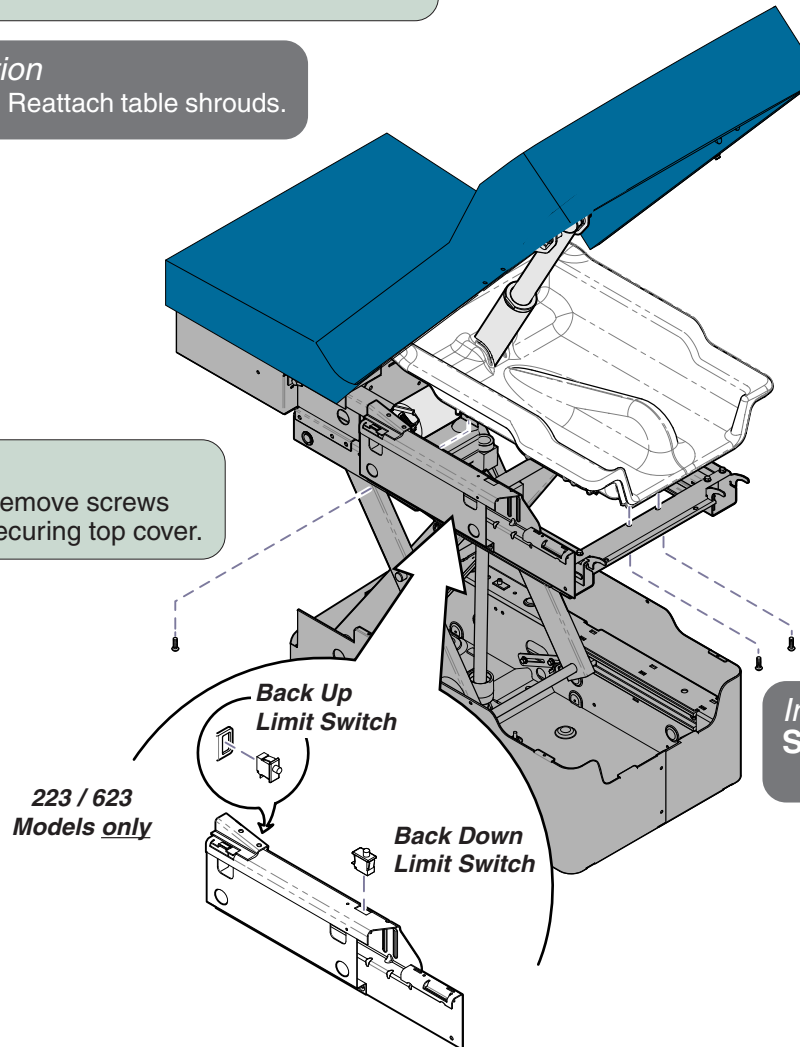
Step 1: Lower table shrouds.
Refer to: Section C - Table Shrouds

Installation

Step 2: Reattach table shrouds.

Removal

Step 2: Remove screws securing top cover.

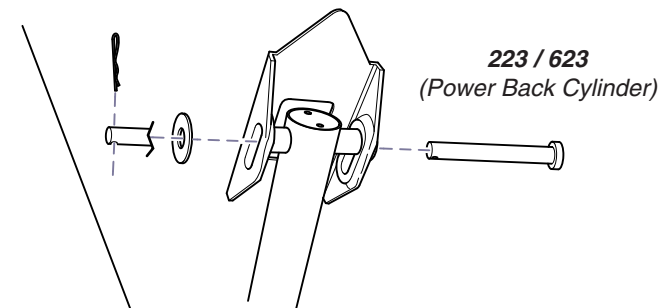


Removal

Note

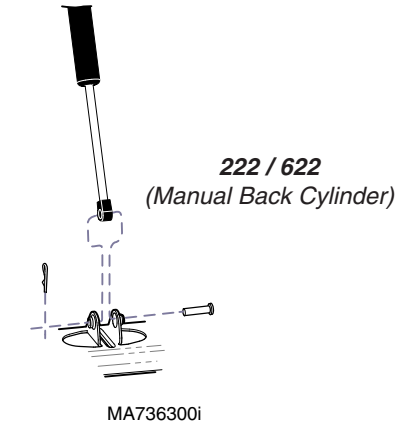
The back limit switches can be accessed without completely removing the top cover. But if removing the cover is necessary, perform Step 3.

Step 3: Partially separate the back lift cylinder as shown. Slide top cover off of cylinder.



Installation

Step 1: Slide top cover over back cylinder. Reattach back cylinder.



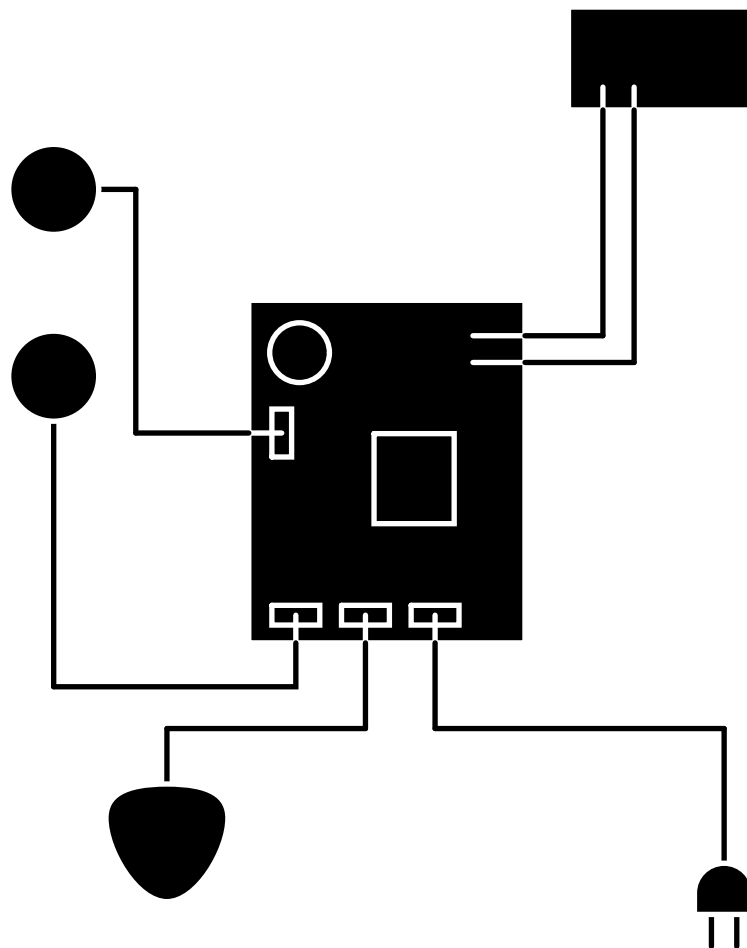
Models:
Serial Numbers:

All
All

Top Cover

Section D

Wiring Diagrams



Model

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222:

(-001 & -005)	D-2
(-002 & -006)	D-3
(-003 & -007)	D-4
(-004 & -008)	D-5
(-009 & -017)	D-6
(-010)	D-7
(-011 & -013)	D-8
(-012 & -014)	D-9
(-015)	D-10
(-016)	D-11

223:

(-001 & -005)	D-12
(-002 & -006)	D-13
(-003 & -007)	D-14
(-004 & -008)	D-15
(-009)	D-16
(-010)	D-17
(-011 & -013)	D-18
(-012 & -014)	D-19
(-015)	D-20
(-016)	D-21

622:

(-001)	D-3
(-002)	D-22
(-003)	D-6
(-004)	D-23
(-005)	D-8
(-006)	D-24
(-007)	D-10
(-008)	D-25

623:

(-001)	D-26
(-002)	D-27
(-003 & -009)	D-28
(-004)	D-29
(-005)	D-30
(-006)	D-31
(-007)	D-32
(-008)	D-33
(-010)	D-29*
(-011)	D-34

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitive. ex. D-2)

Wiring Diagrams

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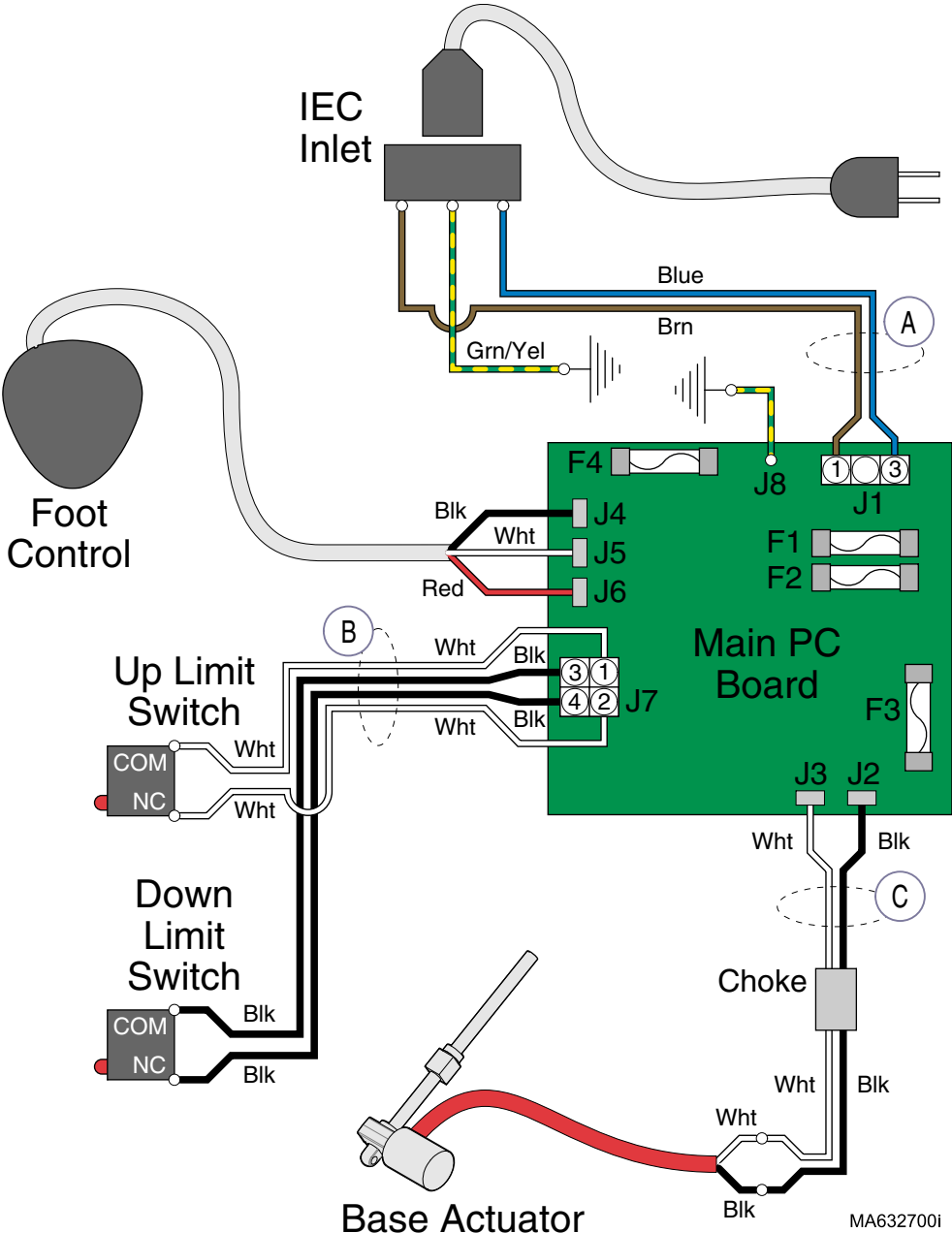
Refer To:

Fuses

Go To Page:

E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1579-00 (includes Item B)
B	Base Up/Down Limit Switches	Main PC Board	015-1579-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)

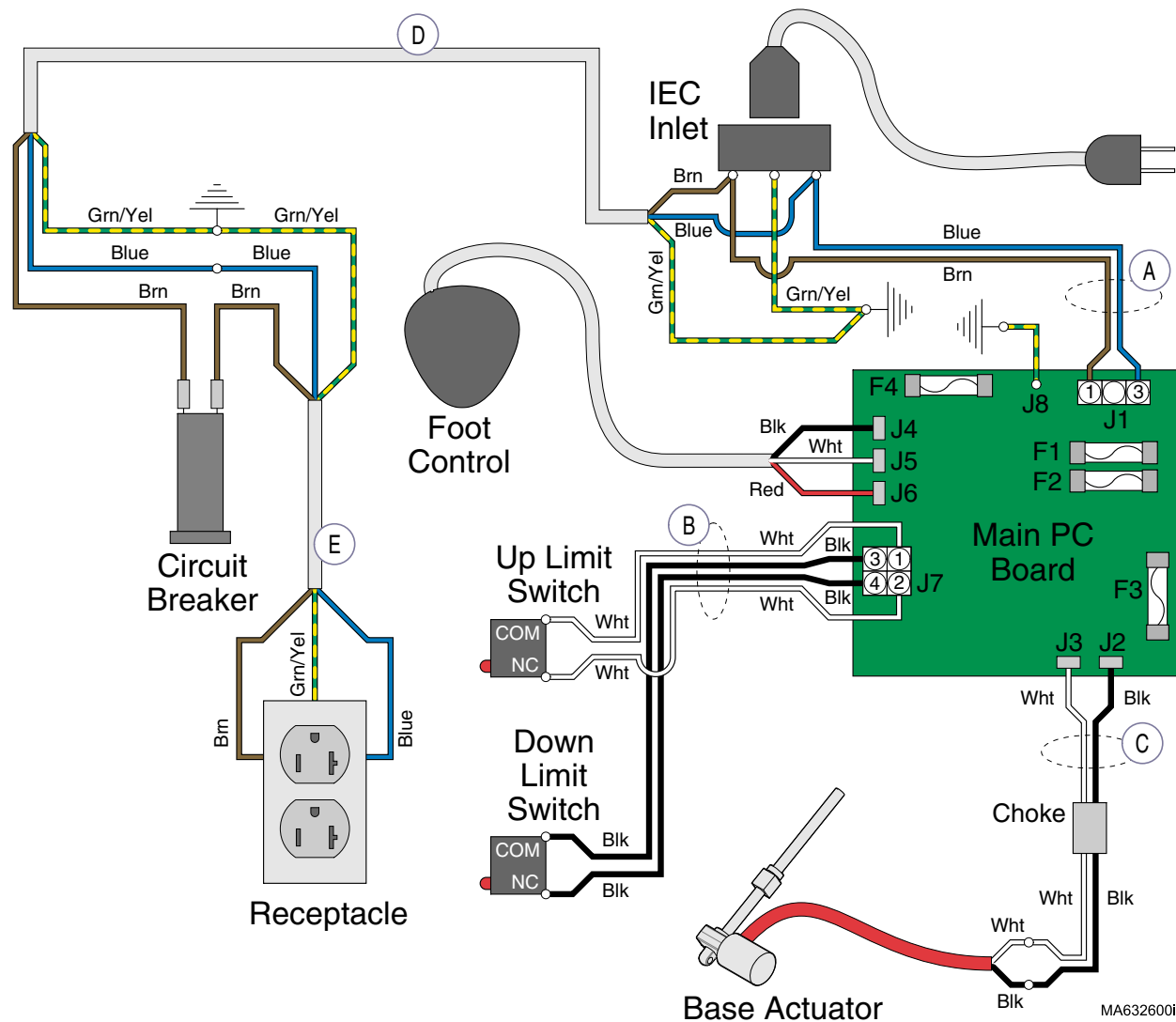


Wiring Diagrams

Refer To:

Fuses E-25

Go To Page:



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1579-00 (includes Item B)
B	Base Up/Down Limit Switches	Main PC Board	015-1579-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Circuit Breaker	IEC Inlet	015-1594-30
E	Receptacle	Circuit Breaker	015-1595-00

Models:
Serial Numbers:

222 (-002 & -006)
all

622 (-001)
all

Wiring Diagrams

Wiring Diagrams

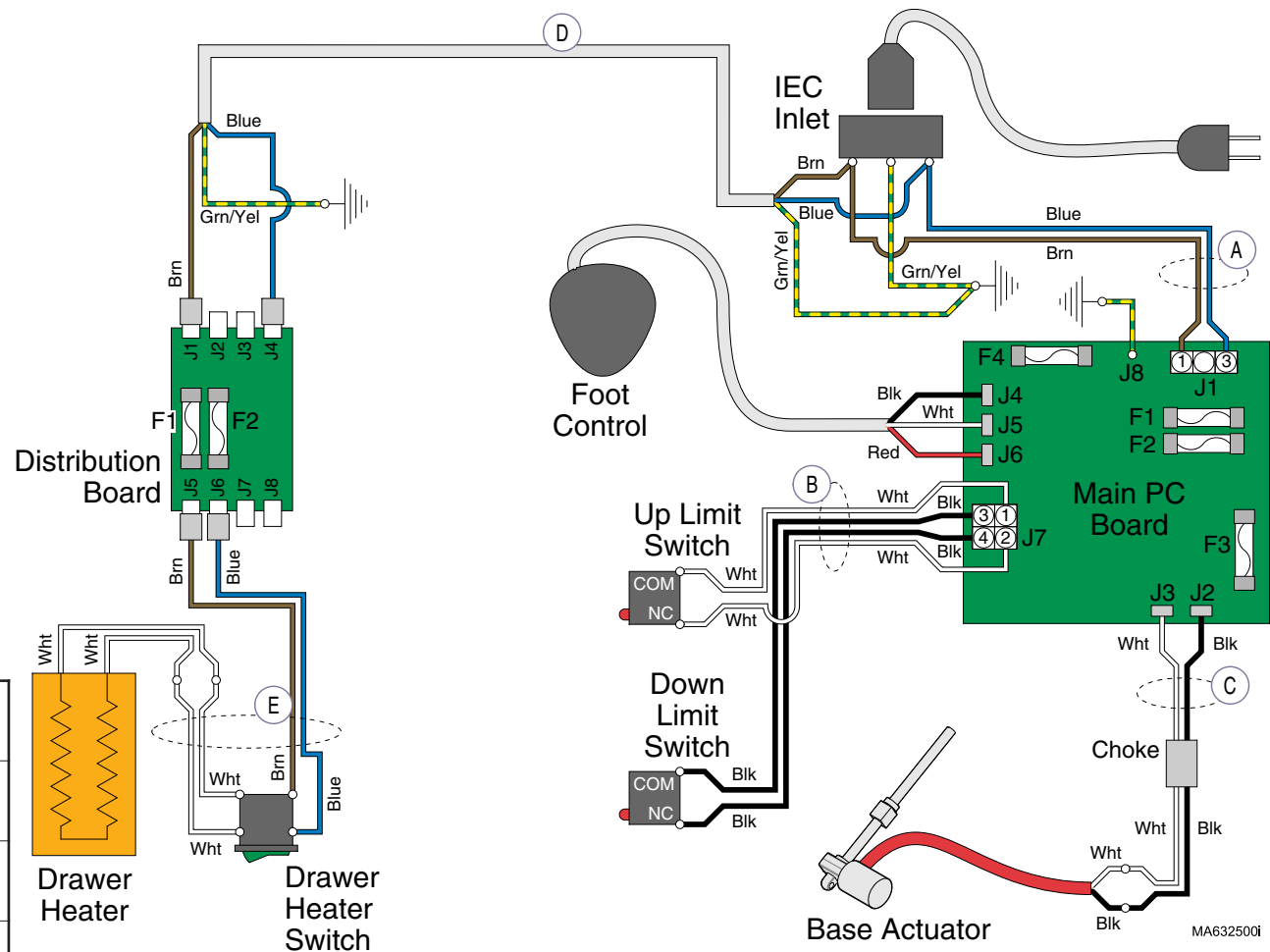
Refer To:

Fuses E-25

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E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1579-00 (includes Item B)
B	Base Up/Down Limit Switches	Main PC Board	015-1579-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Distribution Board	IEC Inlet	015-1594-00
E	Heater Plate / Heater Switch	Distribution Board	015-1629-00



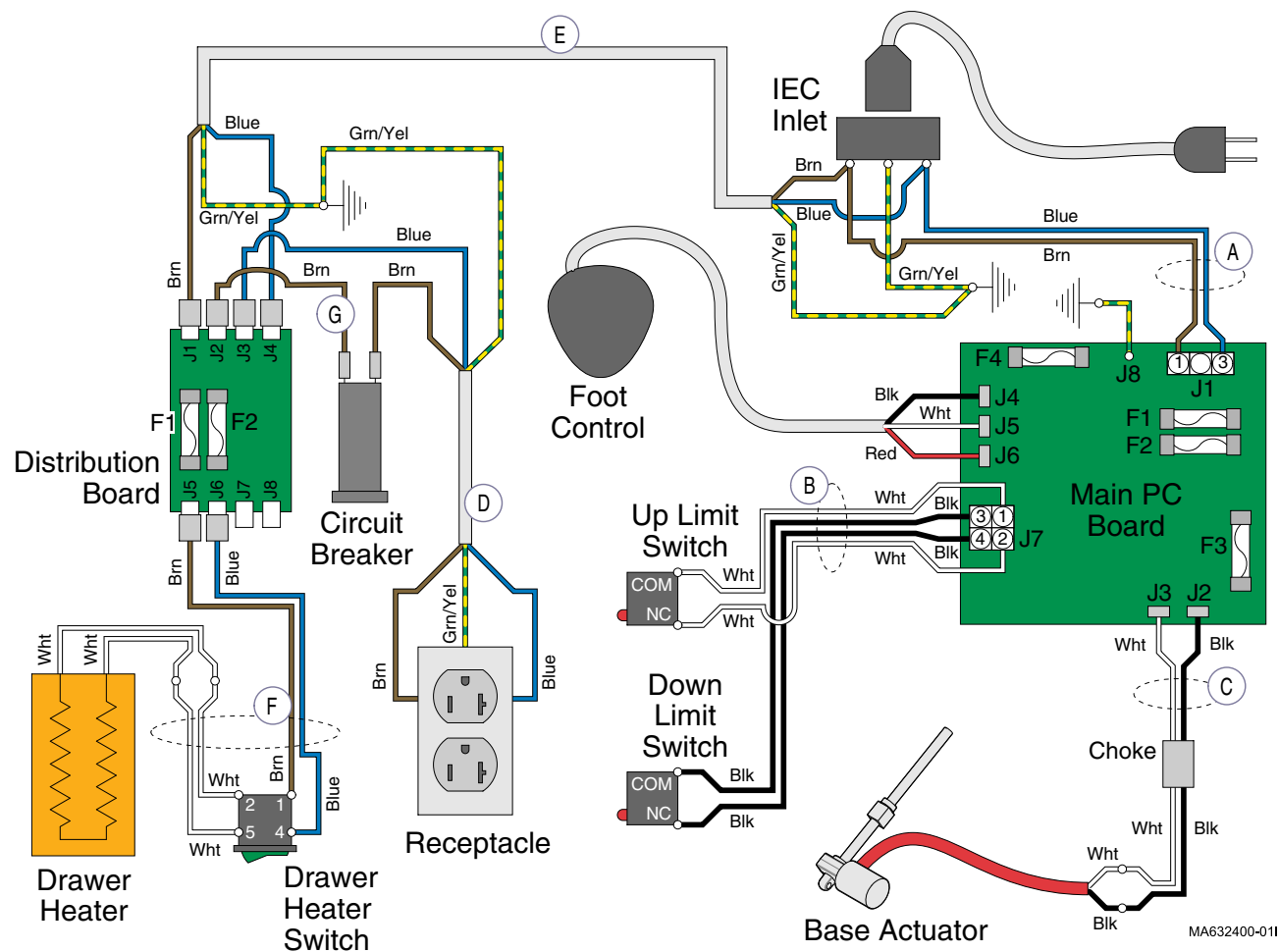
Wiring Diagrams

Refer To:

Fuses

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E-25



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1579-00 (includes Item B)
B	Base Up/Down Limit Switches	Main PC Board	015-1579-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Receptacle	Circuit Breaker	015-1595-00
E	Distribution Board	IEC Inlet	015-1594-00
F	Heater Plate / Heater Switch	Distribution Board	015-1629-00
G	Circuit Breaker	Distribution Board	015-0708-30

Models:
Serial Numbers:

222 (-004 & -008)
all

Wiring Diagrams

D-5

Wiring Diagrams

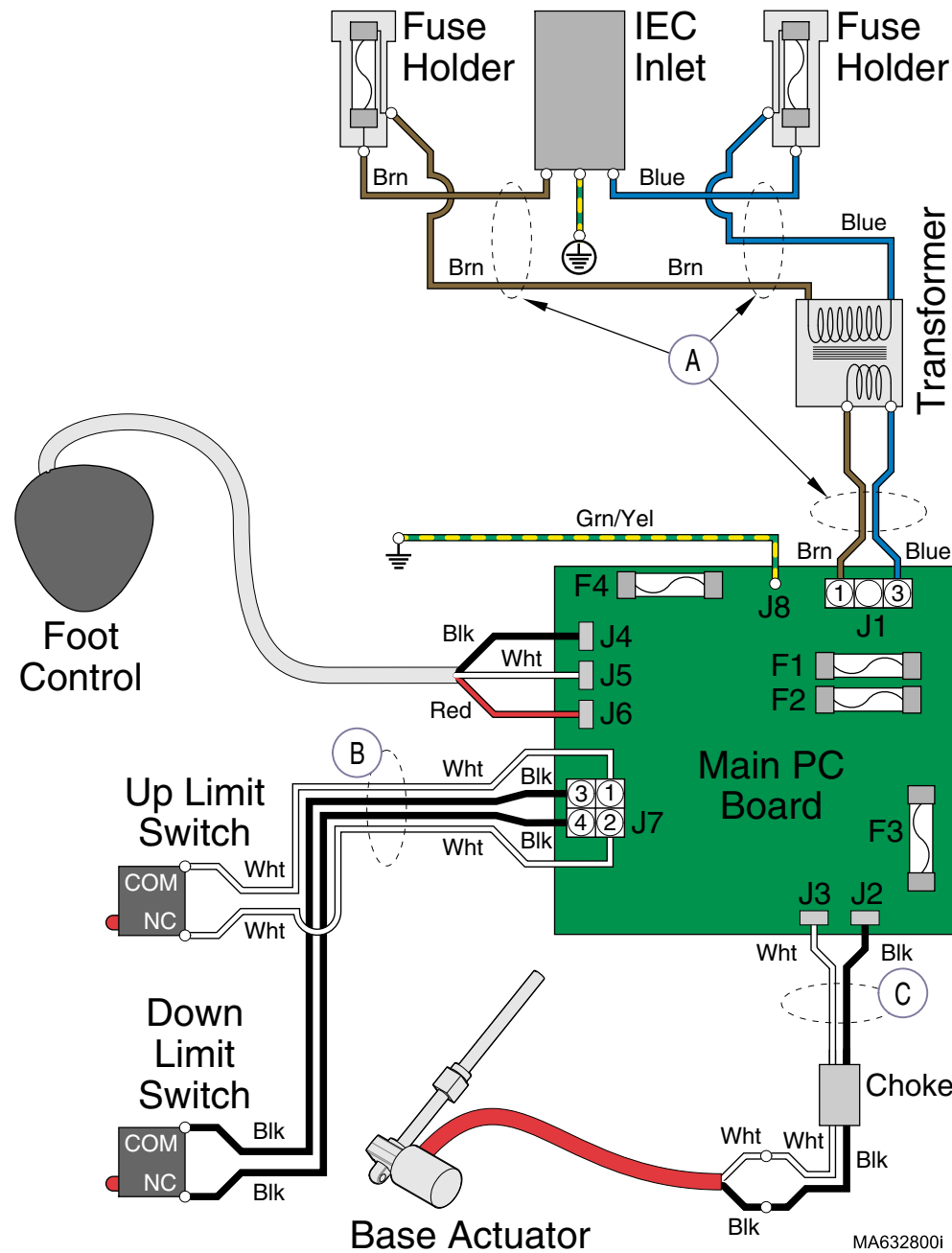
[Go To Table Of Contents](#)

Refer To:

Fuses

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E-25



Wire Harness	From:	To:	Part Number
A	IEC Inlet / Fuse Holders / Transformer	Main PC Board	015-1580-00 (includes Item B)
B	Base Up/Down Limit Switches	Main PC Board	015-1580-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)

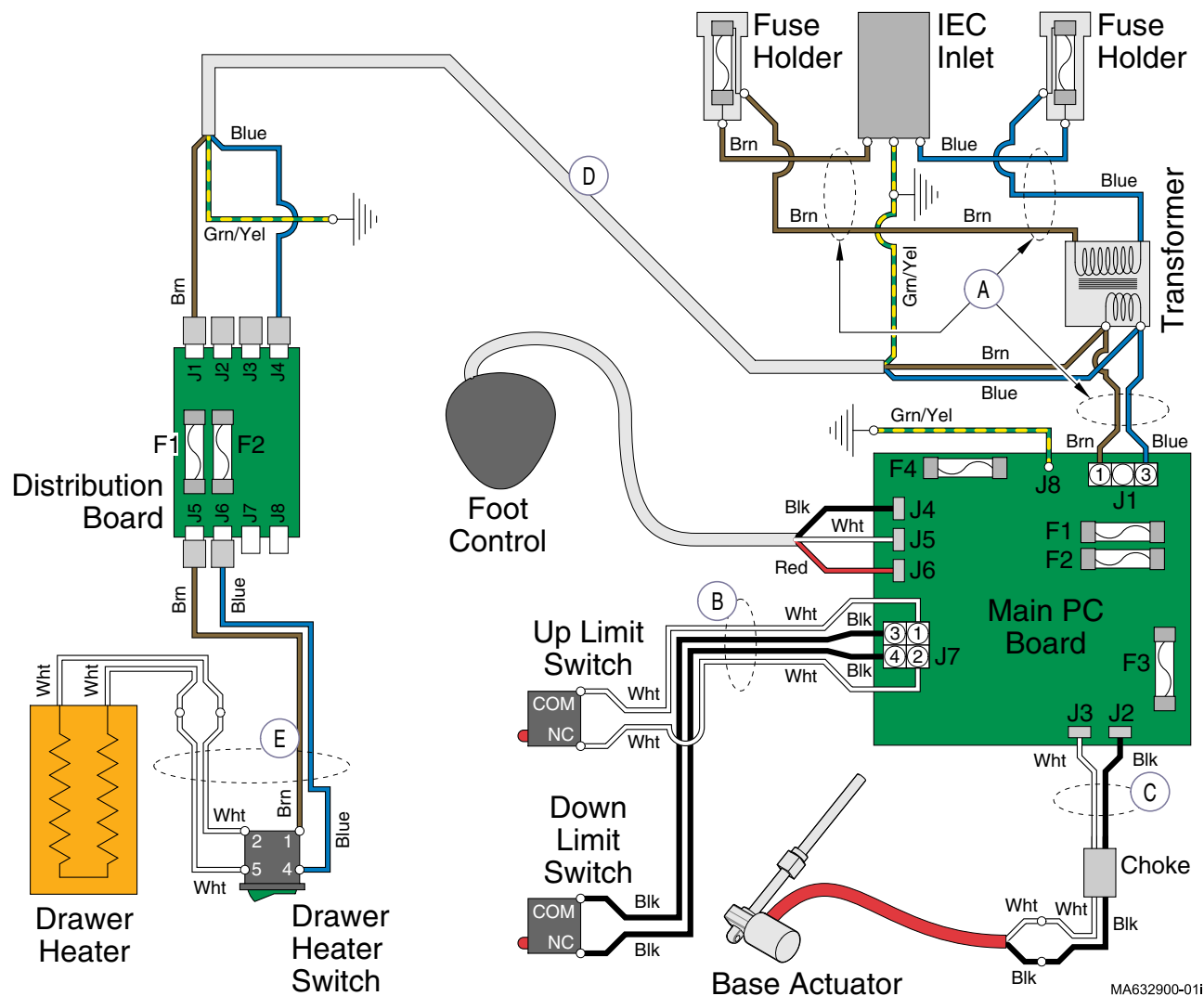
Wiring Diagrams

Refer To:

Fuses

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E-25



Wire Harness	From:	To:	Part Number
A	IEC Inlet / Fuse Holders / Transformer	Main PC Board	015-1580-00 (includes Item B)
B	Base Up/Down Limit Switches	Main PC Board	015-1580-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Distribution Board	Transformer	015-1594-00
E	Heater Plate / Heater Switch	Distribution Board	015-1629-00

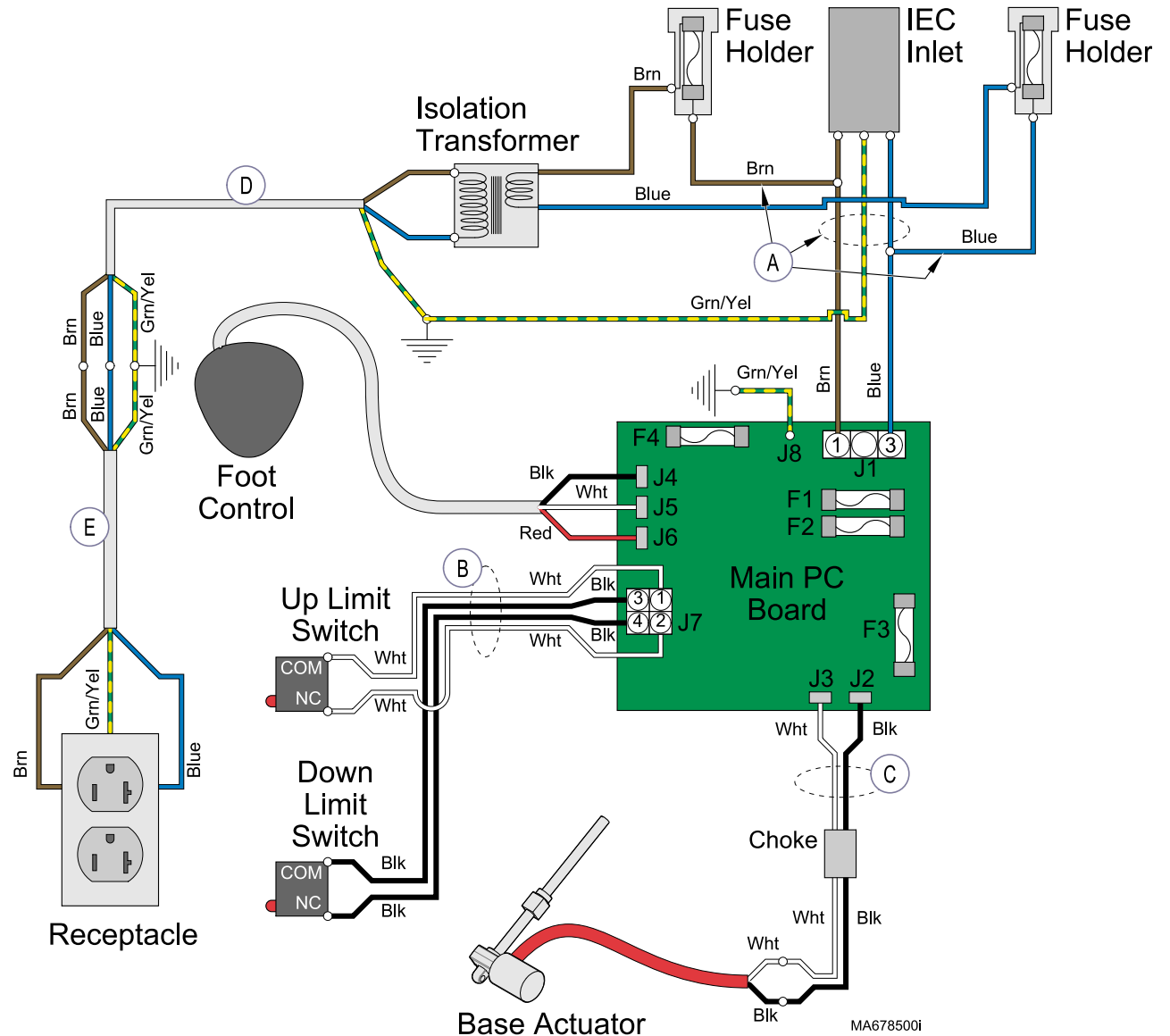
Models:
Serial Numbers:

222 (-010)
all

Wiring Diagrams

D-7

Fuses E-25



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1852-00 <i>(includes Item B)</i>
B	Base Up/Down Limit Switches	Main PC Board	015-1852-00 <i>(includes Item A)</i>
C	Base Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
D	Isolation Transformer	Item E	015-1845-00
E	Receptacle	Item D	015-1595-00

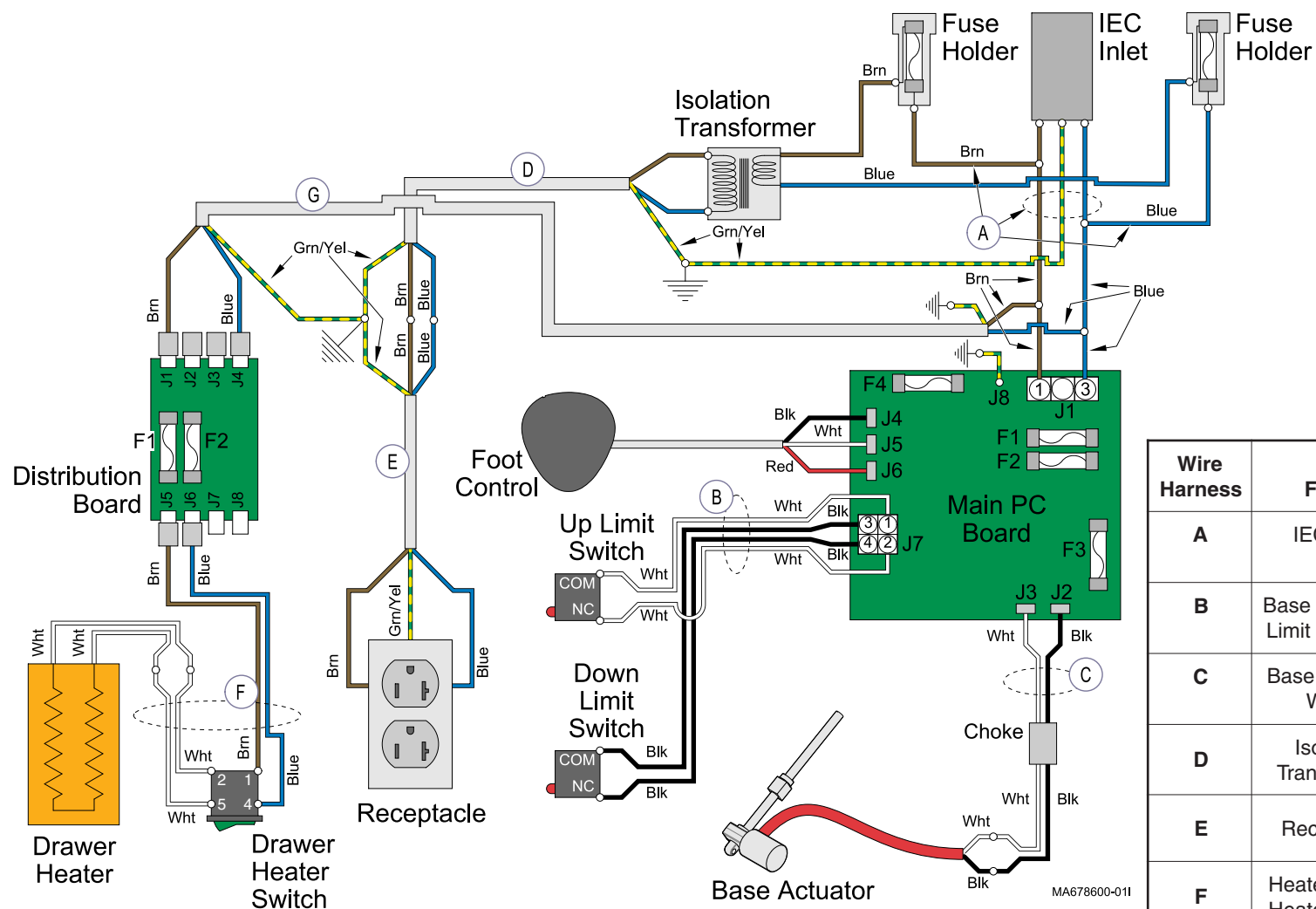
Wiring Diagrams

Refer To:

Fuses

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E-25



Models:
Serial Numbers:

222 (-012 & -014)
all

Wiring Diagrams

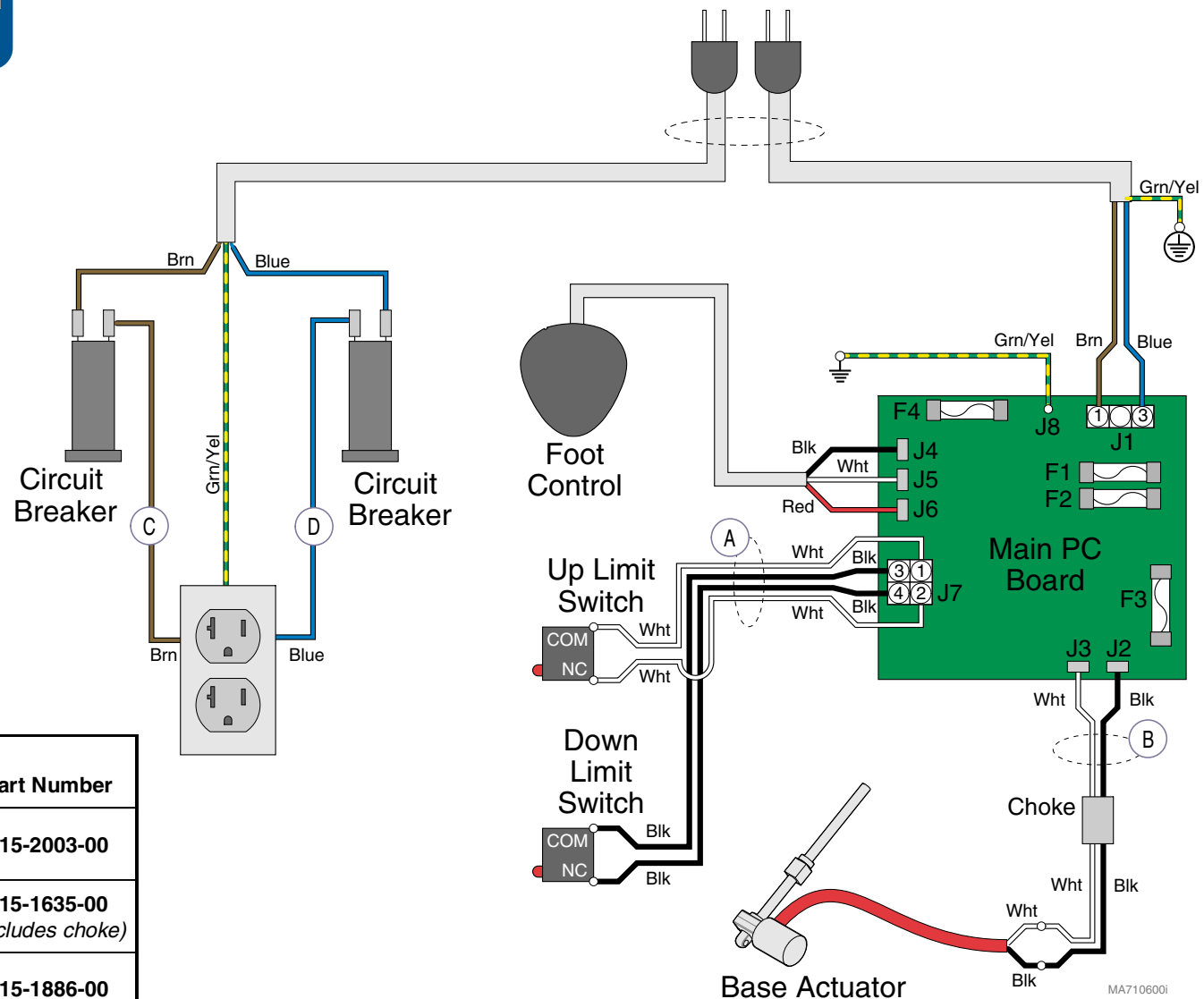
Wiring Diagrams

Refer To:

Fuses E-25

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E-25



Wire Harness	From:	To:	Part Number
A	BaseUp / Down Limit Switches	Main PC Board	015-2003-00
B	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
C	Circuit Breaker (brown wire)	Table Receptacle	015-1886-00
D	Circuit Breaker (blue wire)	Table Receptacle	015-1886-01

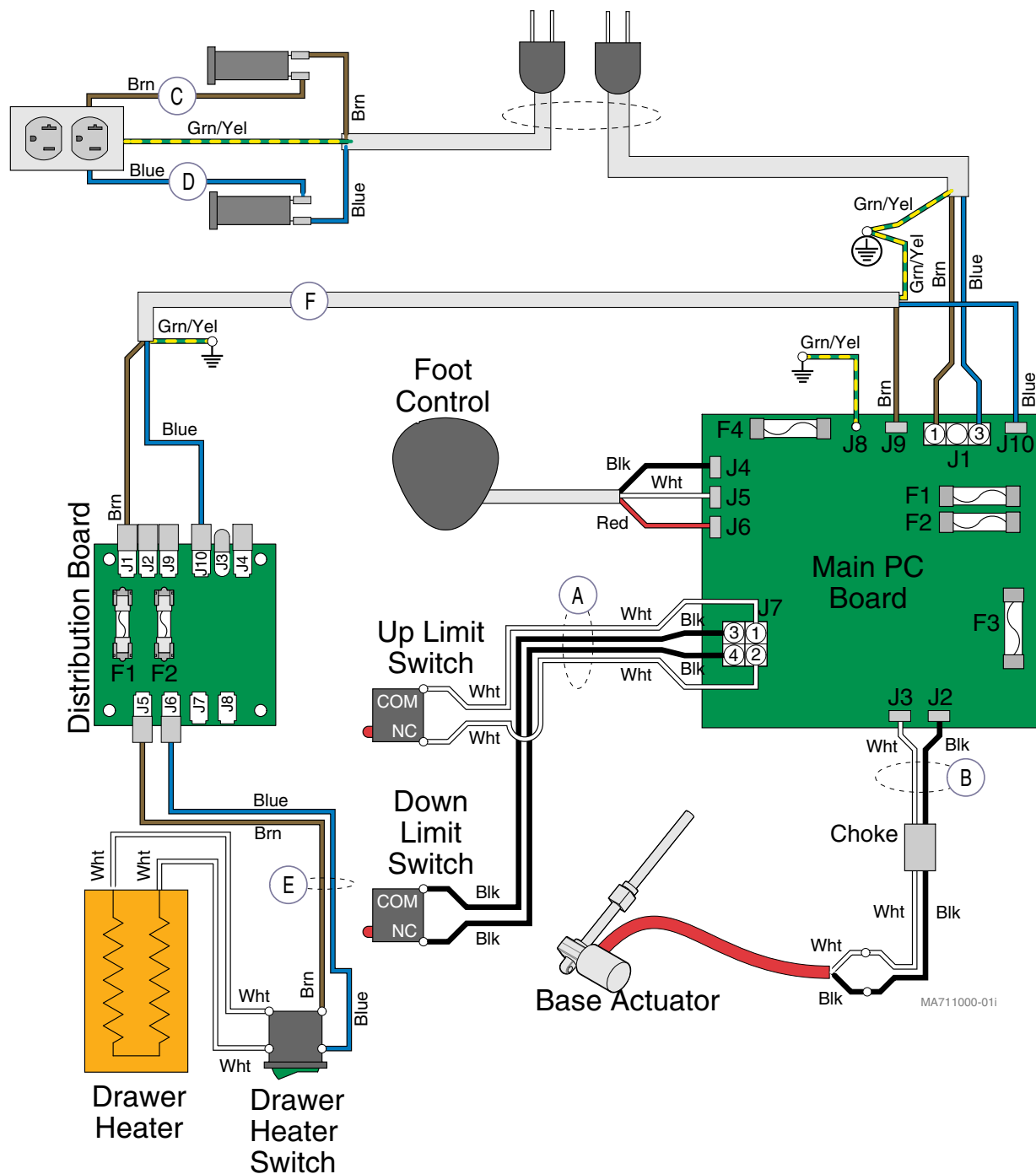
Wiring Diagrams

Refer To:

Fuses

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E-25



Wire Harness	From:	To:	Part Number
A	BaseUp / Down Limit Switches	Main PC Board	015-2003-00
B	Base Actuator Wires	Main PC Board	015-1635-00 (incl. choke)
C	Circuit Breaker (brown wire)	Table Receptacle	015-1886-00
D	Circuit Breaker (blue wire)	Table Receptacle	015-1886-01
E	Heater Switch with Harness	Distribution Board	015-3326-00
F	Distribution Board	Main PC Board	015-2005-00

Models:
Serial Numbers:

222 (-016)
all

Wiring Diagrams

D-11

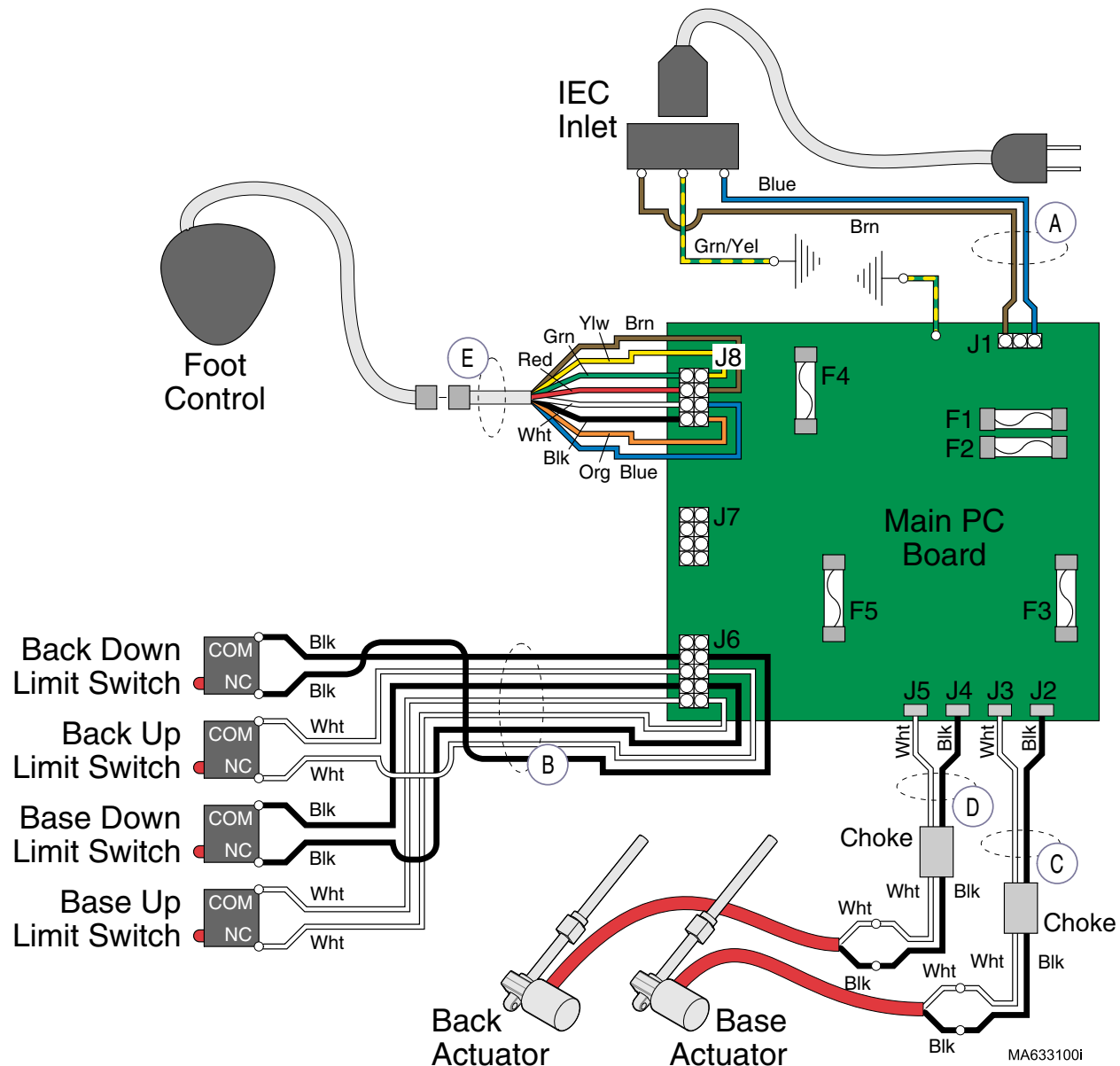
Wiring Diagrams

Refer To:

Fuses E-25

Go To Page:

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1744-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1744-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00

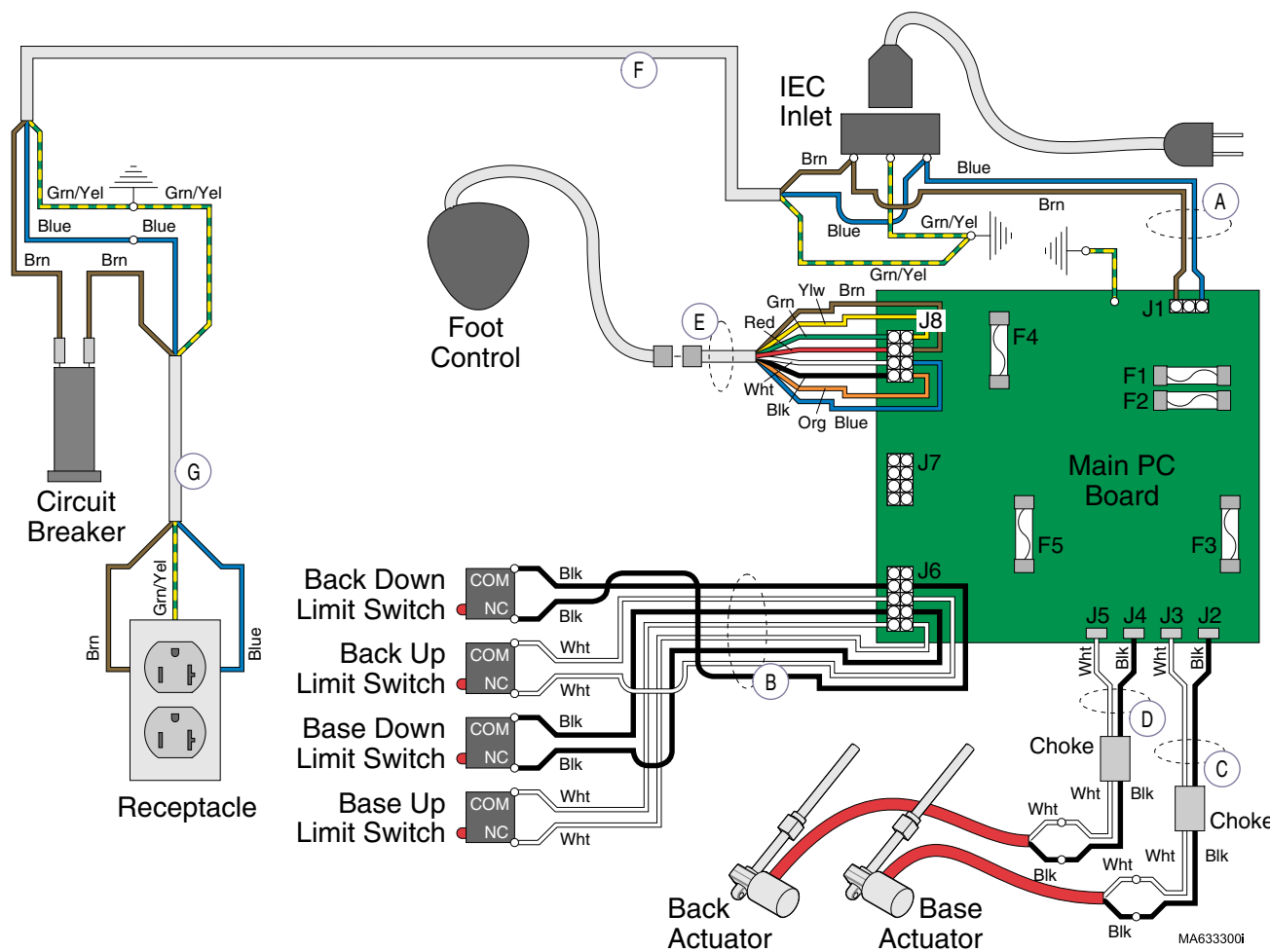


Wiring Diagrams

Refer To:

Fuses E-25

Go To Page:



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1744-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1744-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Circuit Breaker	IEC Inlet	015-1594-30
G	Receptacle	Circuit Breaker	015-1595-00

Models:
Serial Numbers:

223 (-002 & -006)
all

Wiring Diagrams

D-13

Wiring Diagrams

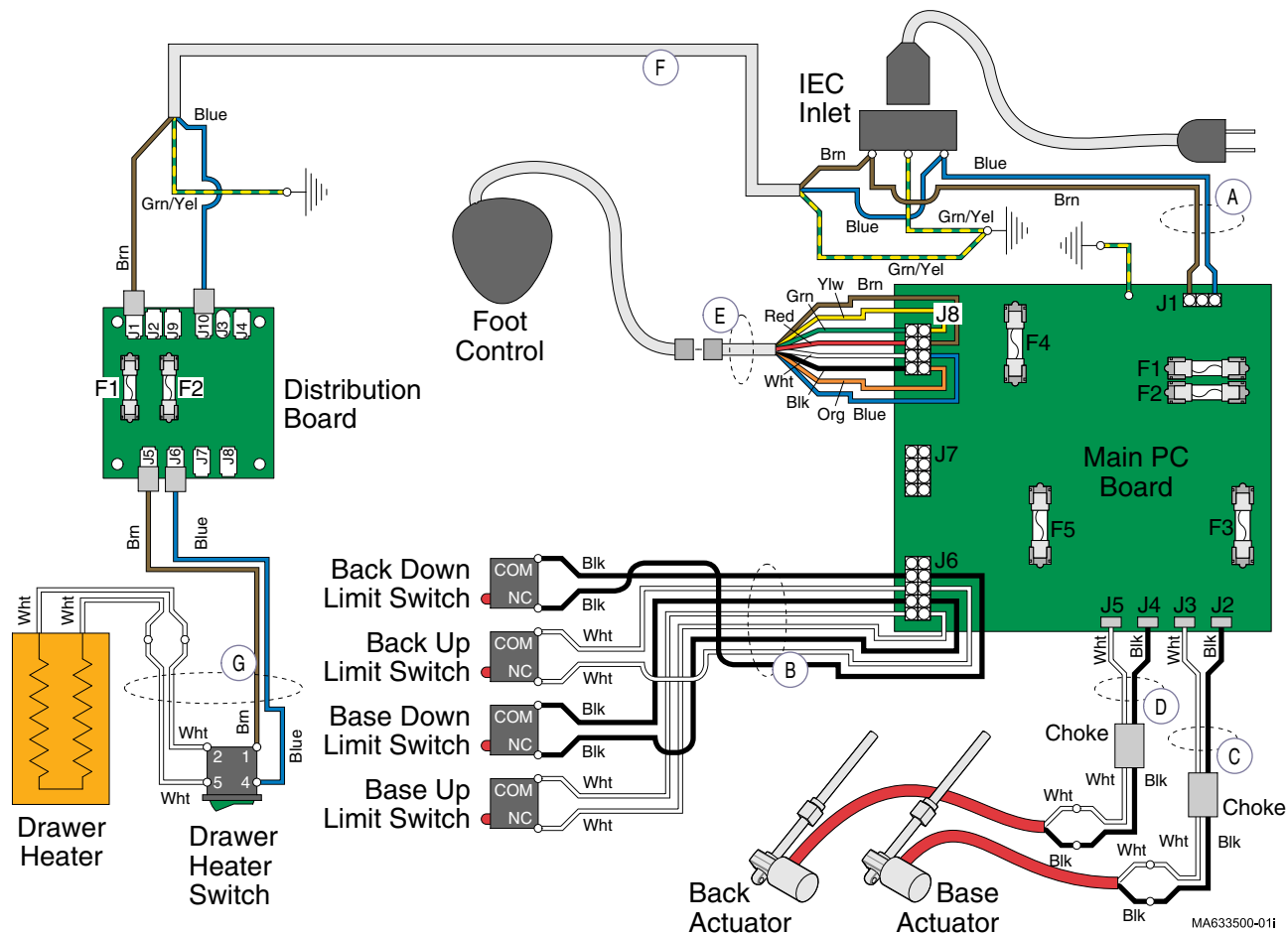
Refer To:

Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1744-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1744-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Distribution Board	IEC Inlet	015-1594-00
G	Heater Plate / Heater Switch	Distribution Board	015-1629-00

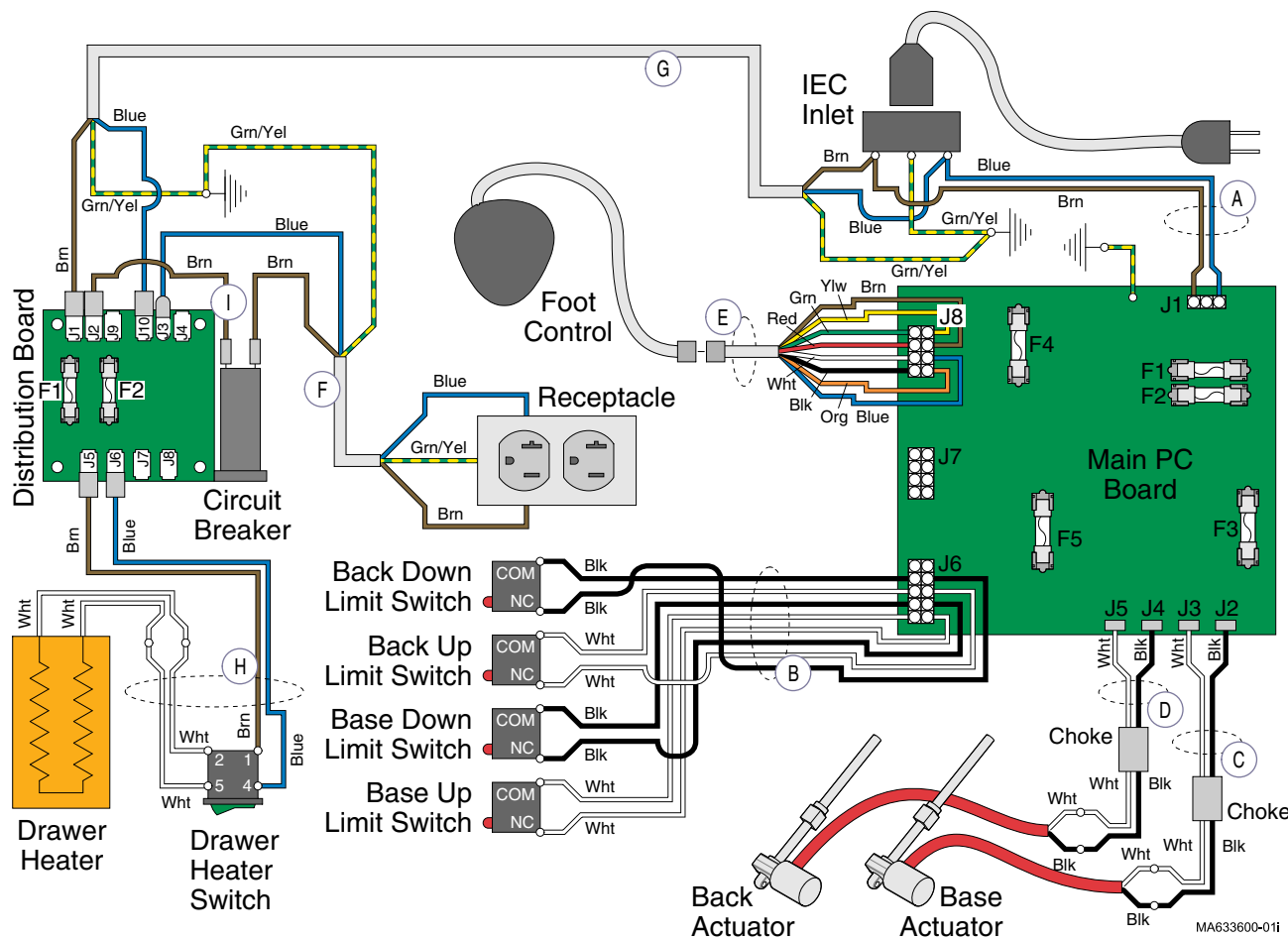


Wiring Diagrams

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Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1744-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1744-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Receptacle	Circuit Breaker	015-1595-00
G	Distribution Board	IEC Inlet	015-1594-00
H	Heater Plate / Heater Switch	Distribution Board	015-1629-00
I	Circuit Breaker	Distribution Board	015-0708-30

Models: 223 (-004 & -008)
Serial Numbers: all

Wiring Diagrams

D-15

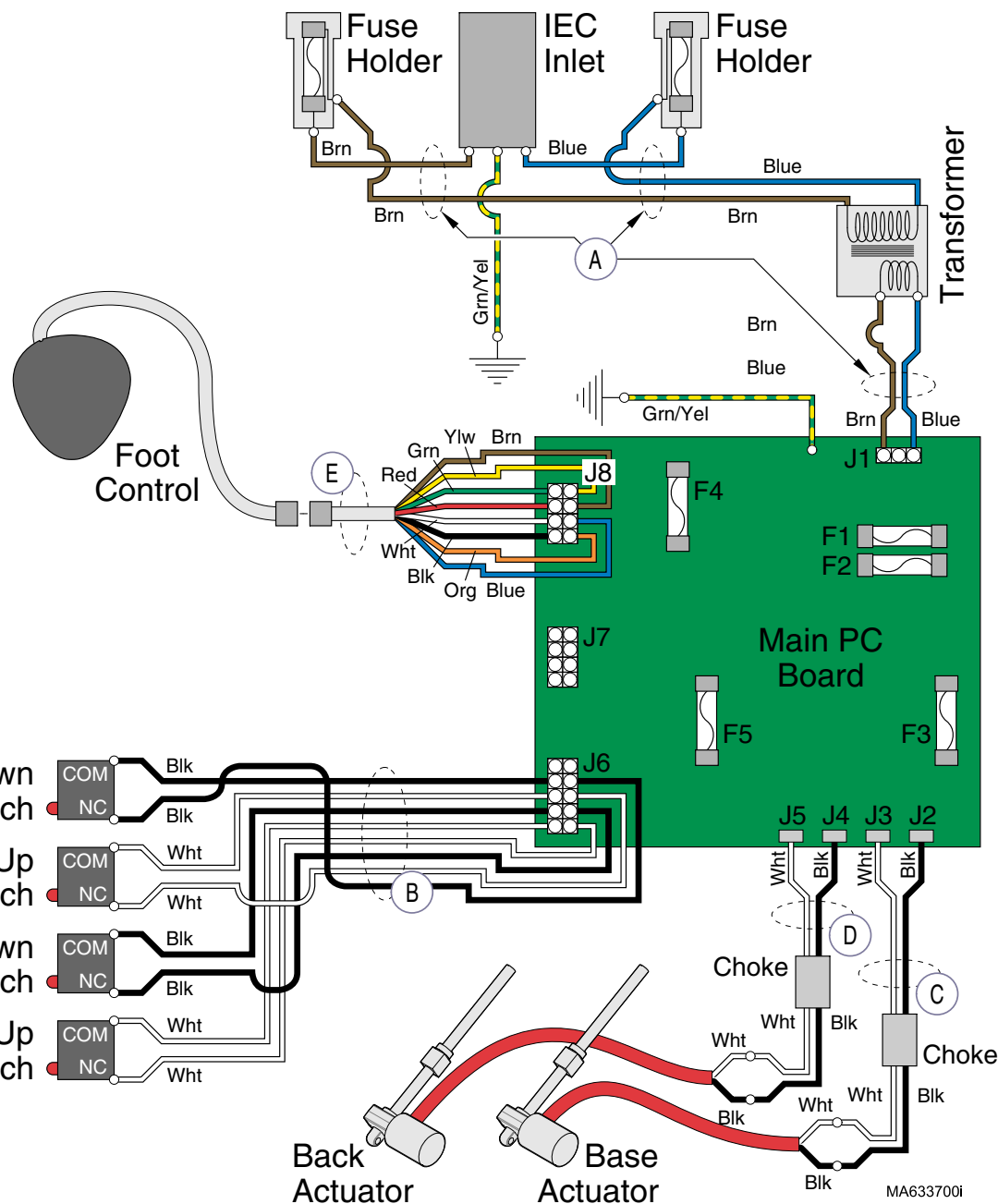
Wiring Diagrams

Refer To:

Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1745-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1745-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00

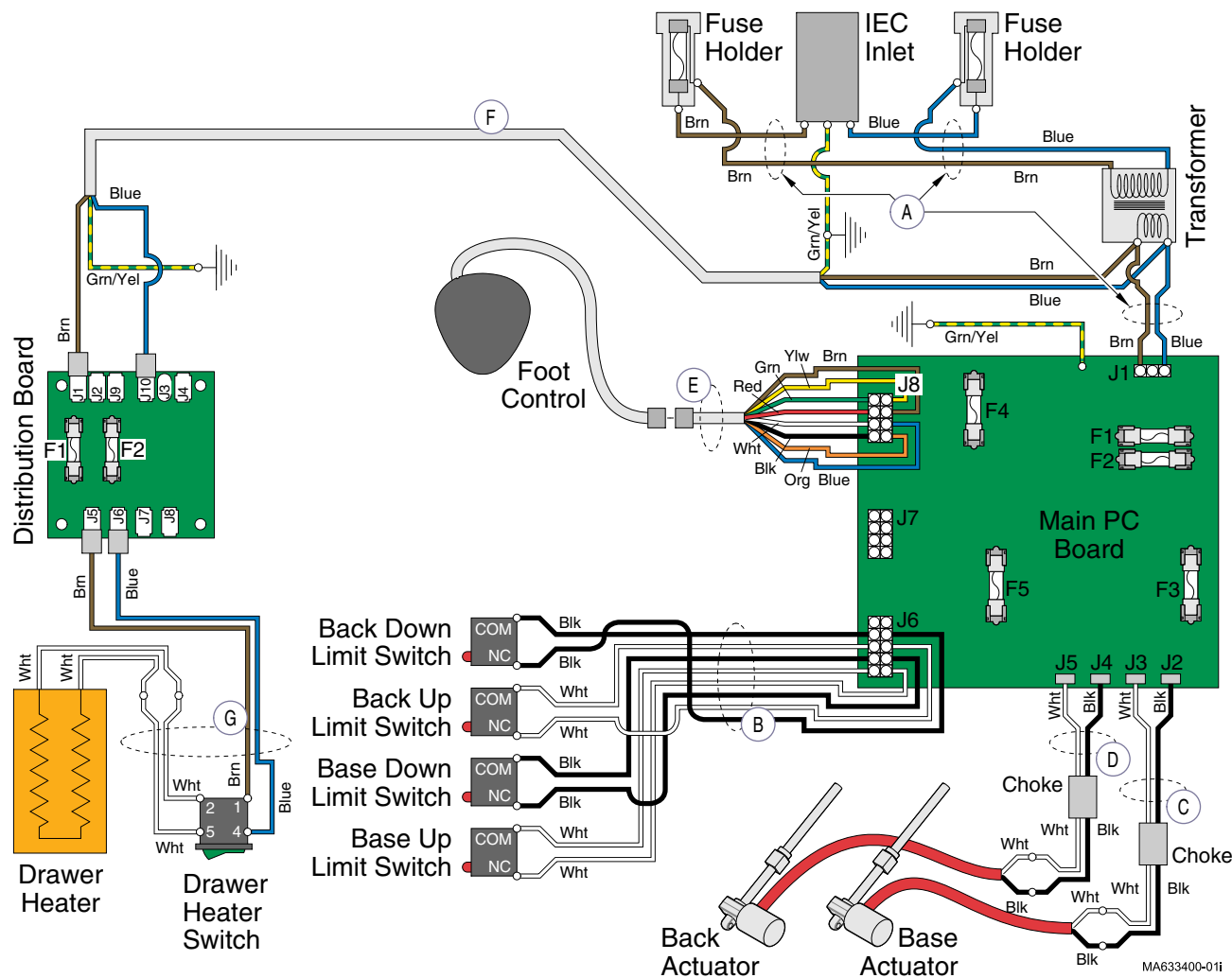
Wiring Diagrams

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Fuses

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1744-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1744-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Distribution Board	Transformer	015-1594-00
G	Heater Plate / Heater Switch	Distribution Board	015-1629-00

Models:
Serial Numbers:

223 (-010)
all

Wiring Diagrams

D-17

Wiring Diagrams

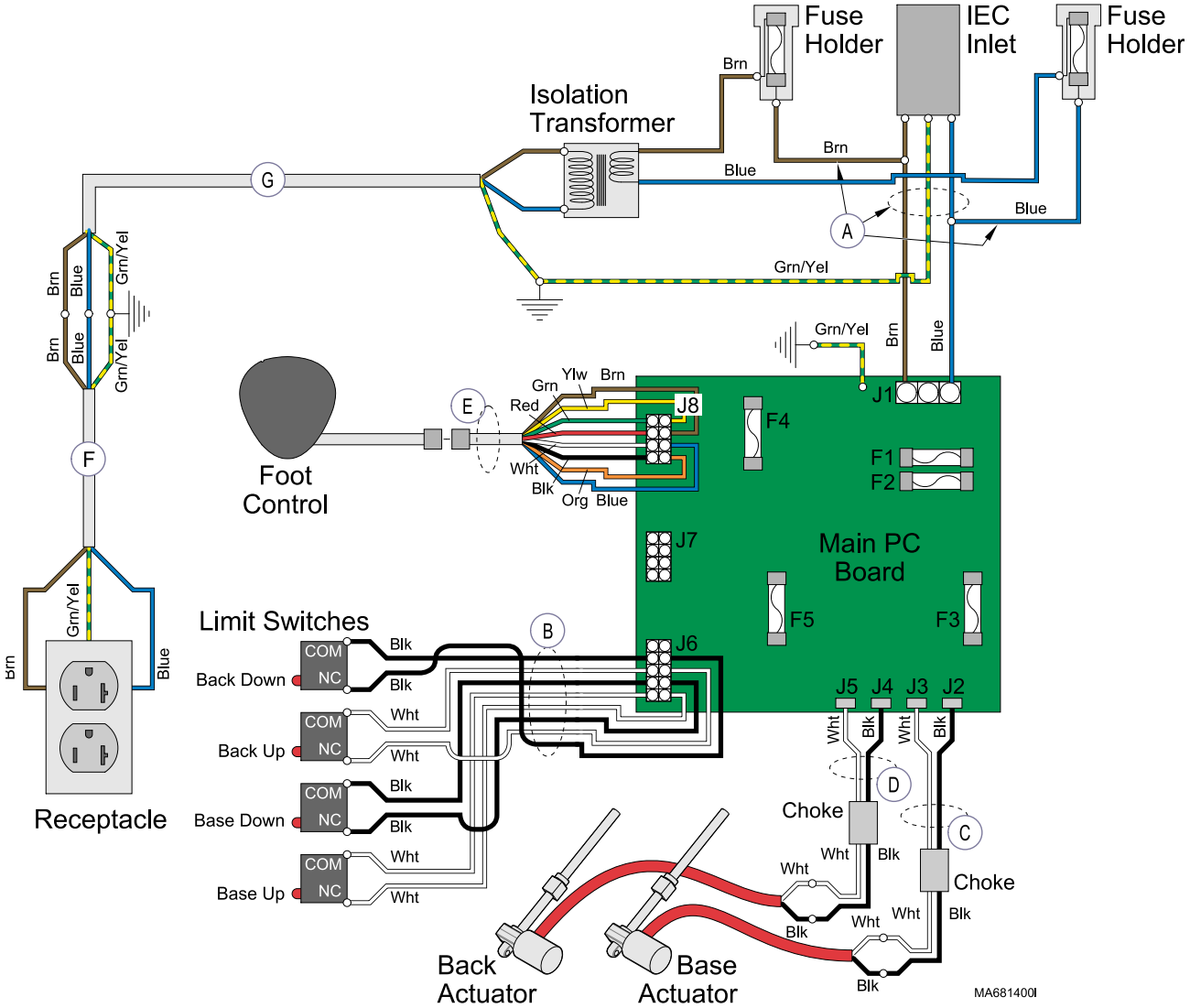
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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1853-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1853-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Receptacle	Item G	015-1595-00
G	Isolation Transformer	Item F	015-1845-00



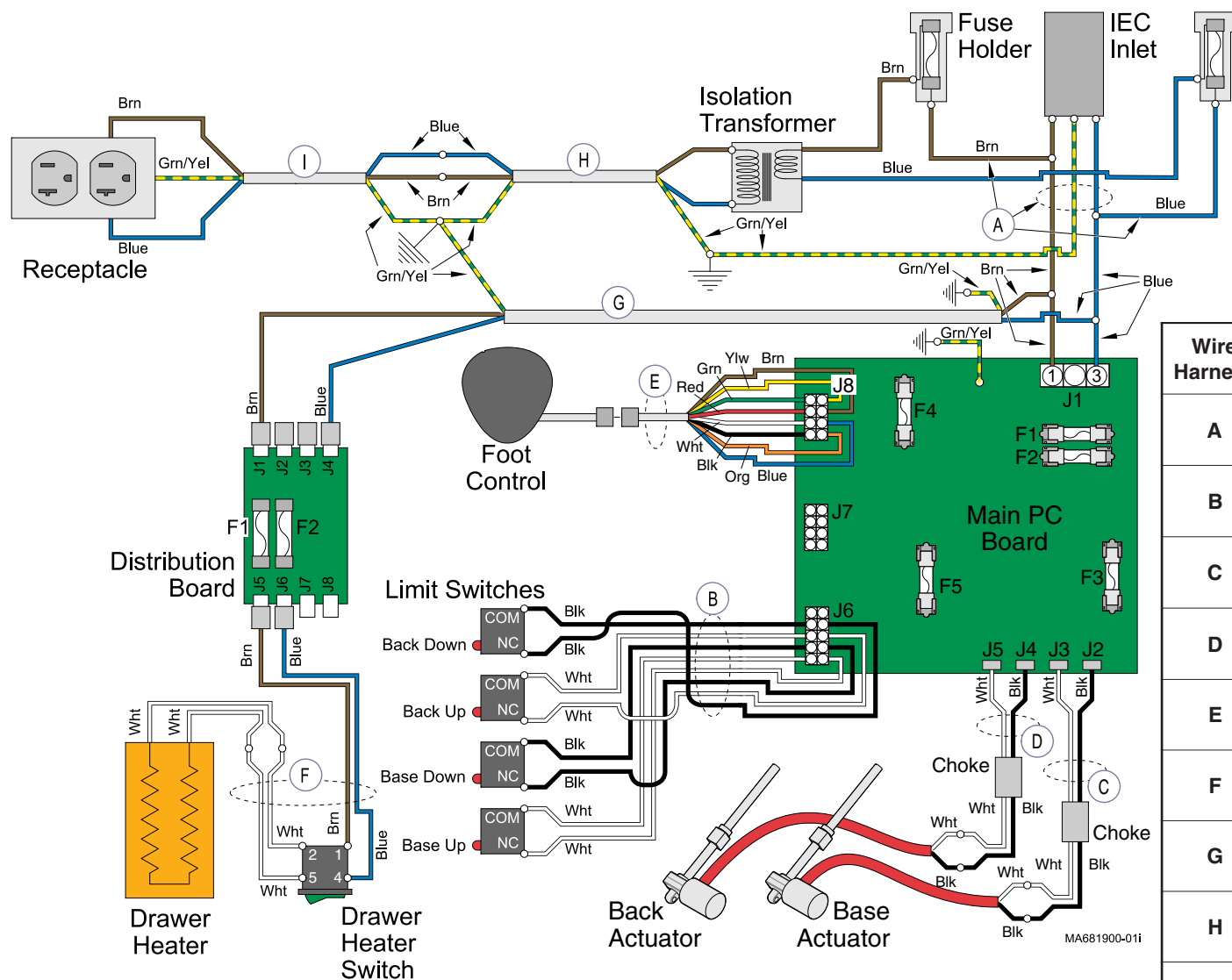
Wiring Diagrams

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Fuses

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1853-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1853-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Drawer Heater / Heater Switch	Distribution Board	015-1629-00
G	Distribution Board	Item A	015-1594-00
H	Isolation Transformer	Item I	015-1845-00
I	Receptacle	Item H	015-1595-00

Models:
Serial Numbers:

223 (-012 & -014)
all

Wiring Diagrams

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Wiring Diagrams

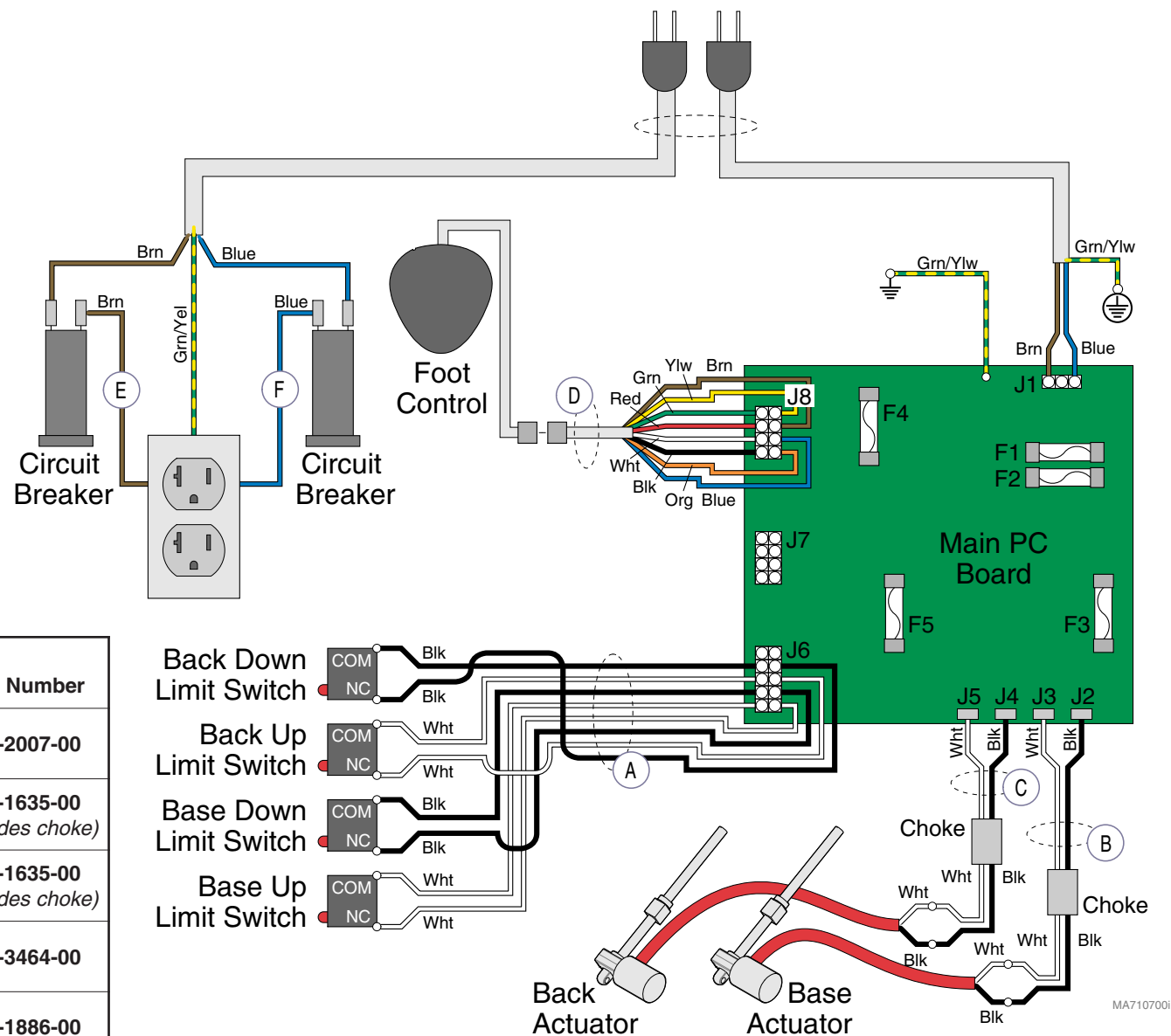
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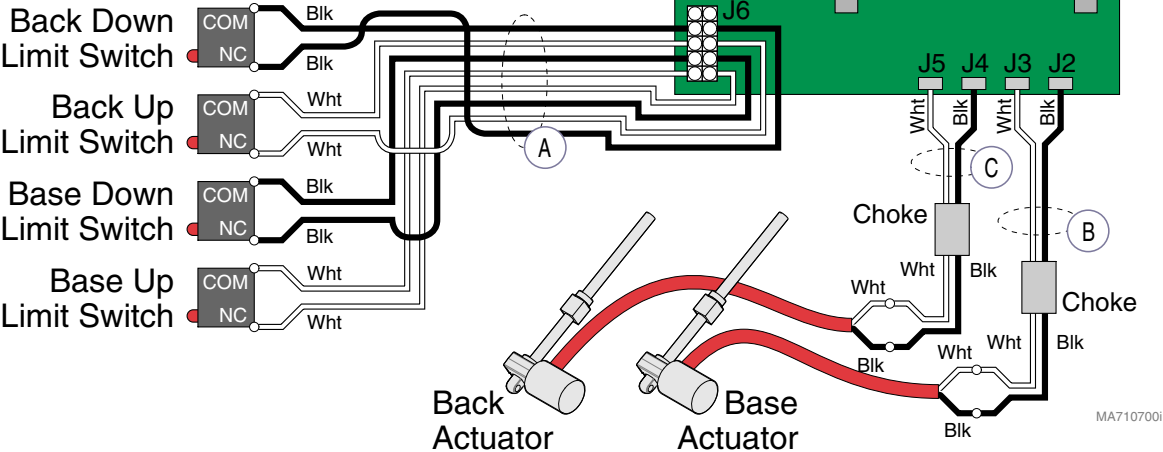
Fuses

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Wire Harness	From:	To:	Part Number
A	Base & Back Limit Switches	Main PC Board	015-2007-00
B	Base Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
C	Back Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
D	Foot Control Inlet Harness	Main PC Board	015-3464-00
E	Circuit Breaker (brown wire)	Table Receptacle	015-1886-00
F	Circuit Breaker (blue wire)	Table Receptacle	015-1886-01



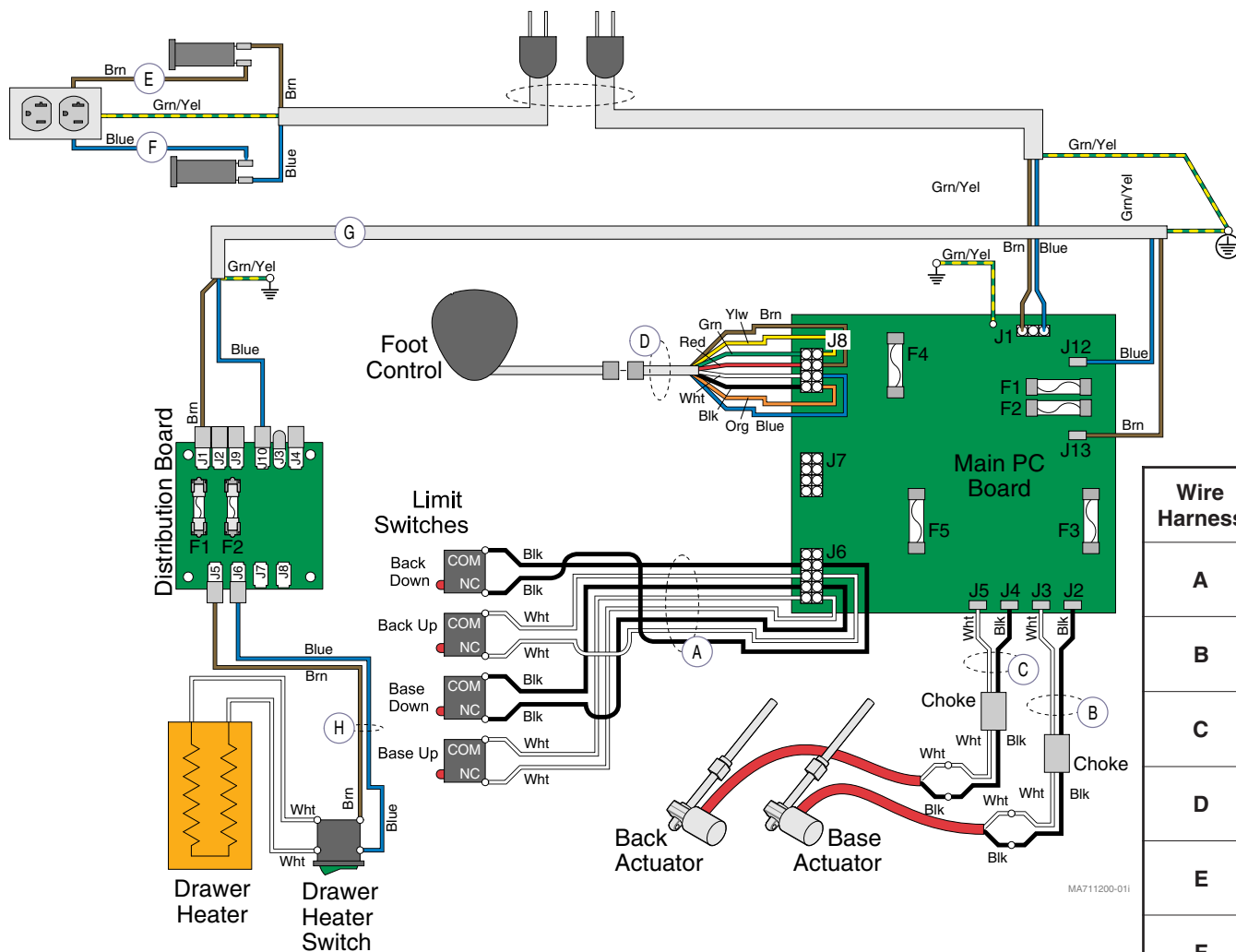
Wiring Diagrams

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Models:
Serial Numbers:

223 (-016)
all

Wiring Diagrams

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Wiring Diagrams

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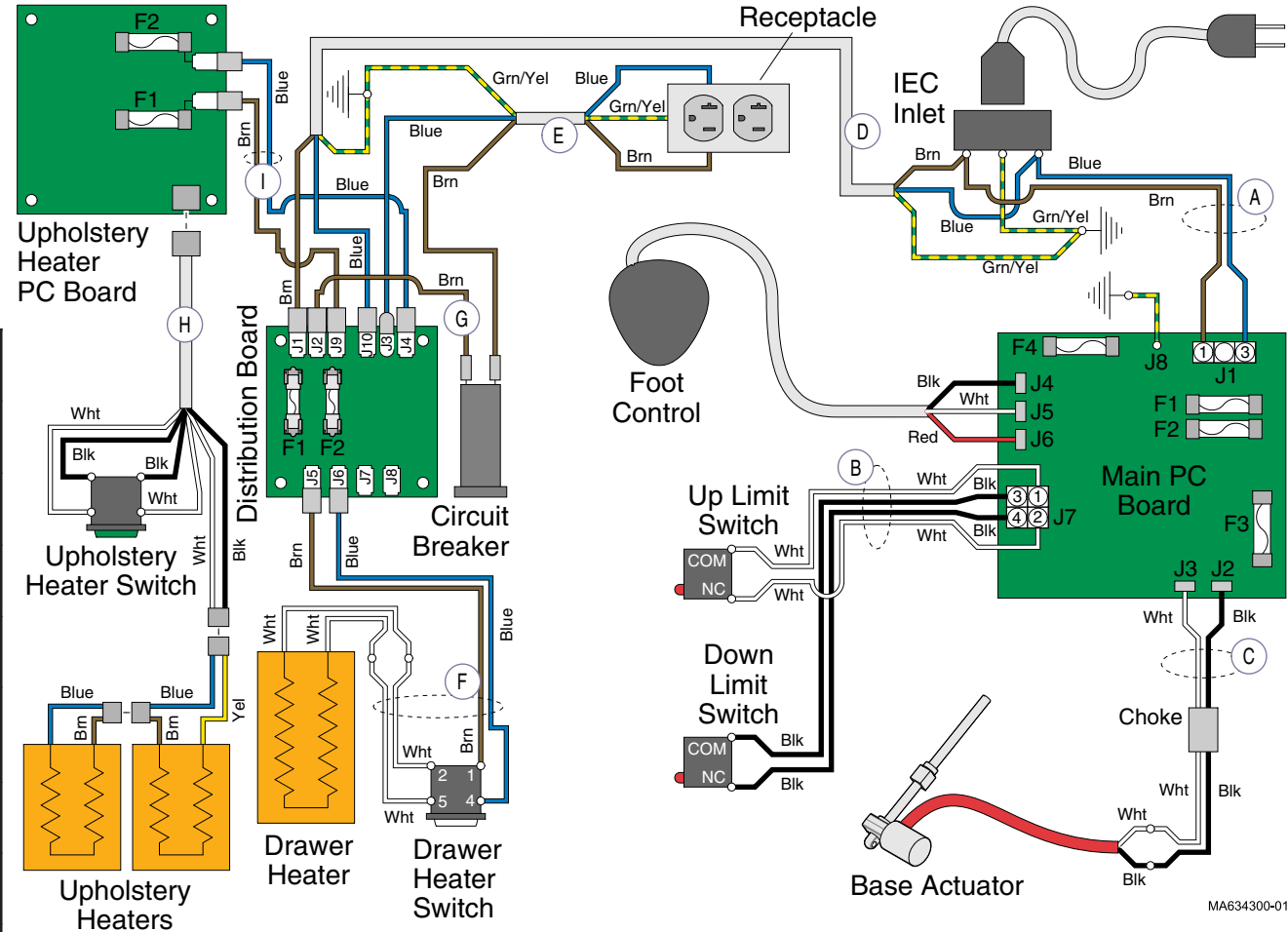
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Fuses

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1579-00 (includes Item B)
B	BaseUp / Down Limit Switches	Main PC Board	015-1579-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Distribution Board	IEC Inlet	015-1594-00
E	Receptacle	Dist. Board / Circuit Breaker	015-1595-00
F	Heater Plate / Heater Switch	Distribution Board	015-1629-00
G	Circuit Breaker	Distribution Board	015-0708-30
H	Upholstery Heater Board	Upholstery Heater, On/Off Switch	015-1722-00
I	Distribution Board	Upholstery Heater Board	015-1720-00

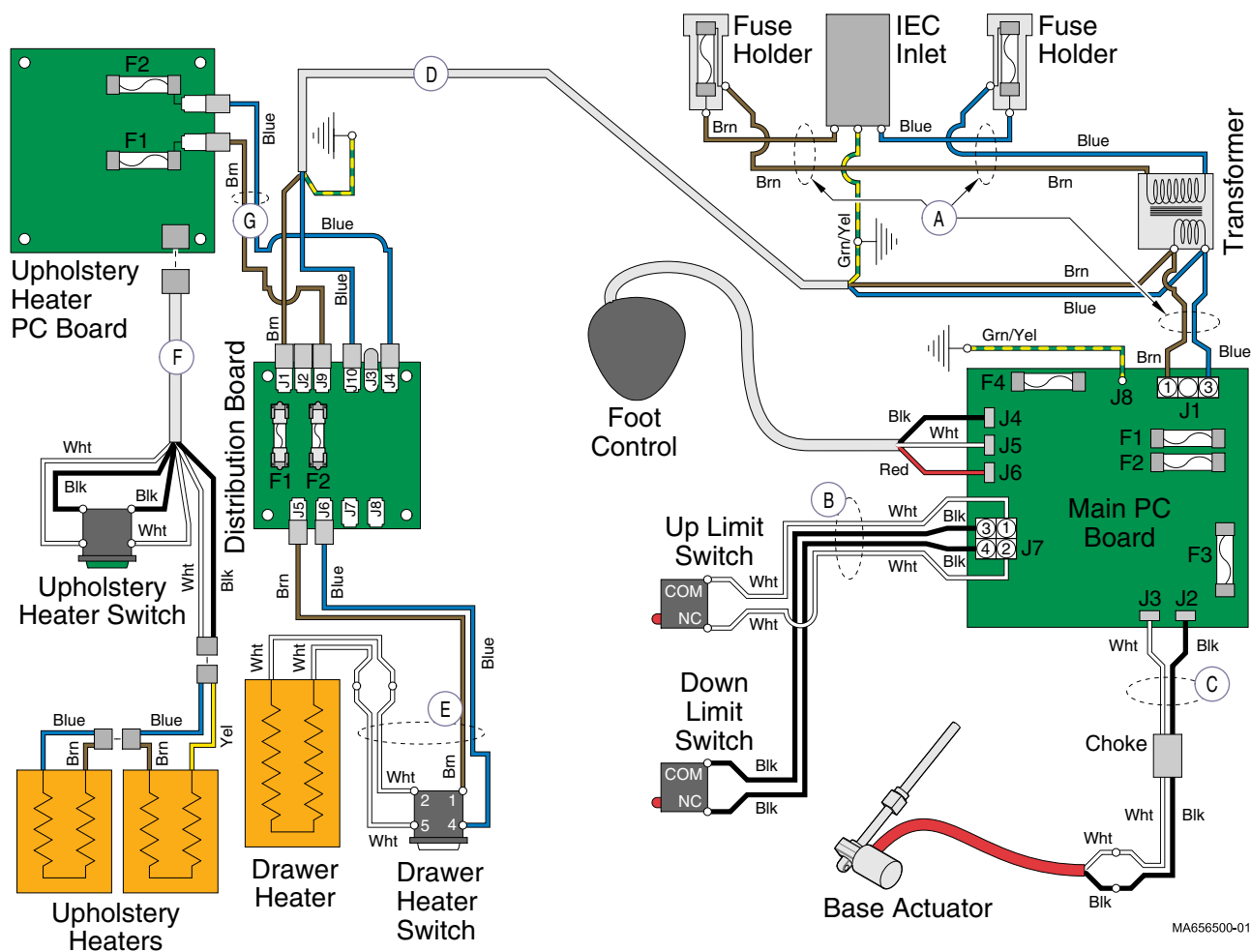


Wiring Diagrams

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Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1580-00 (includes Item B)
B	BaseUp / Down Limit Switches	Main PC Board	015-1580-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Distribution Board	IEC Inlet	015-1594-00
E	Heater Plate / Heater Switch	Distribution Board	015-1629-00
F	Upholstery Heater Board	Upholstery Heater, On/Off Switch	015-1722-00
G	Distribution Board	Upholstery Heater Board	015-1720-00

Models:
Serial Numbers:

622 (-004)
all

Wiring Diagrams

D-23

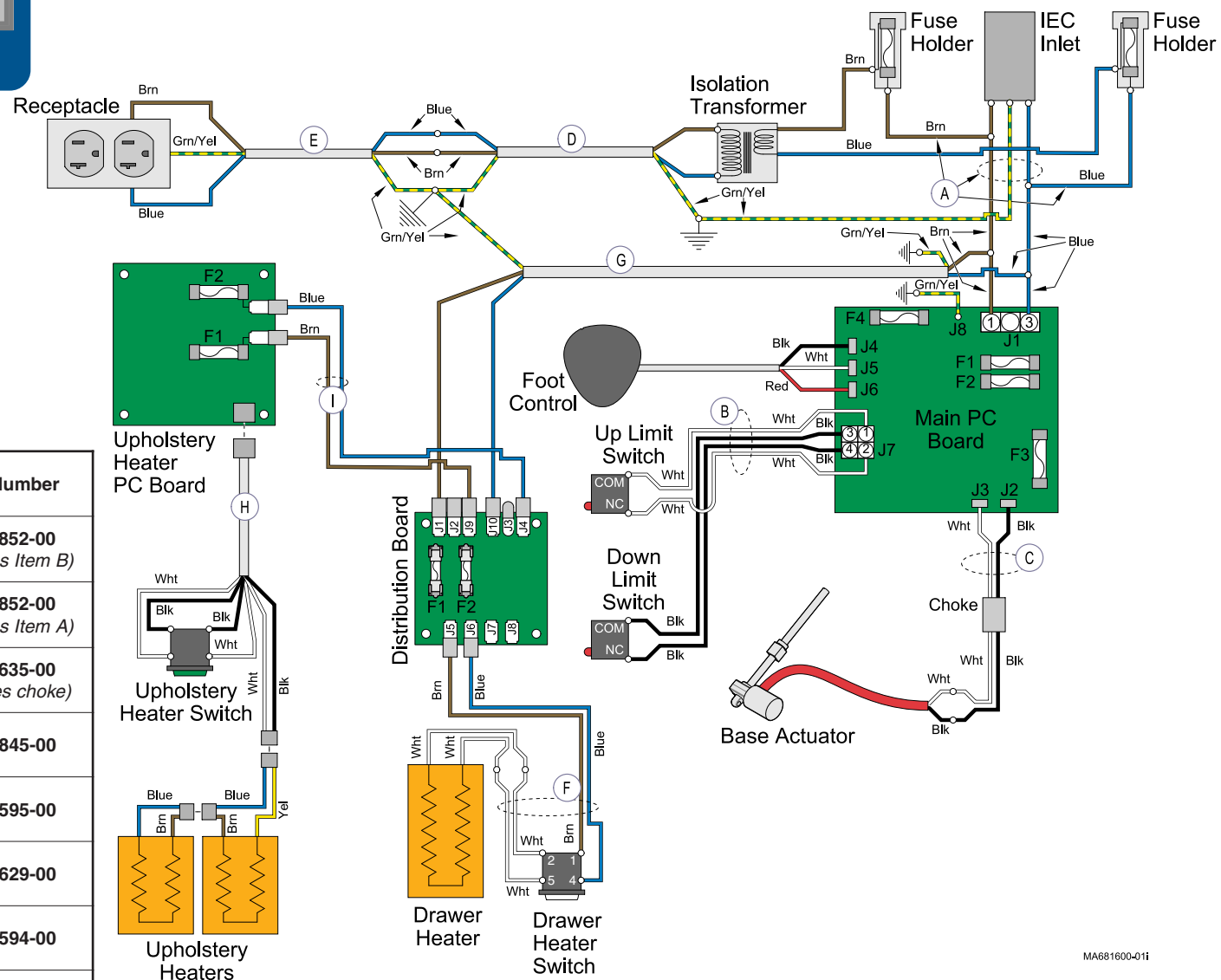
Wiring Diagrams

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Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1852-00 (includes Item B)
B	BaseUp / Down Limit Switches	Main PC Board	015-1852-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Isolation Transformer	Item E	015-1845-00
E	Receptacle	Item D	015-1595-00
F	Heater Plate / Heater Switch	Distribution Board	015-1629-00
G	Distribution Board	Item A	015-1594-00
H	Uph. Heater PC Board	Upholstery Heater Switch	015-1722-00
I	Distribution Board	Uph. Heater PC Board	015-1720-00



MA681600-011

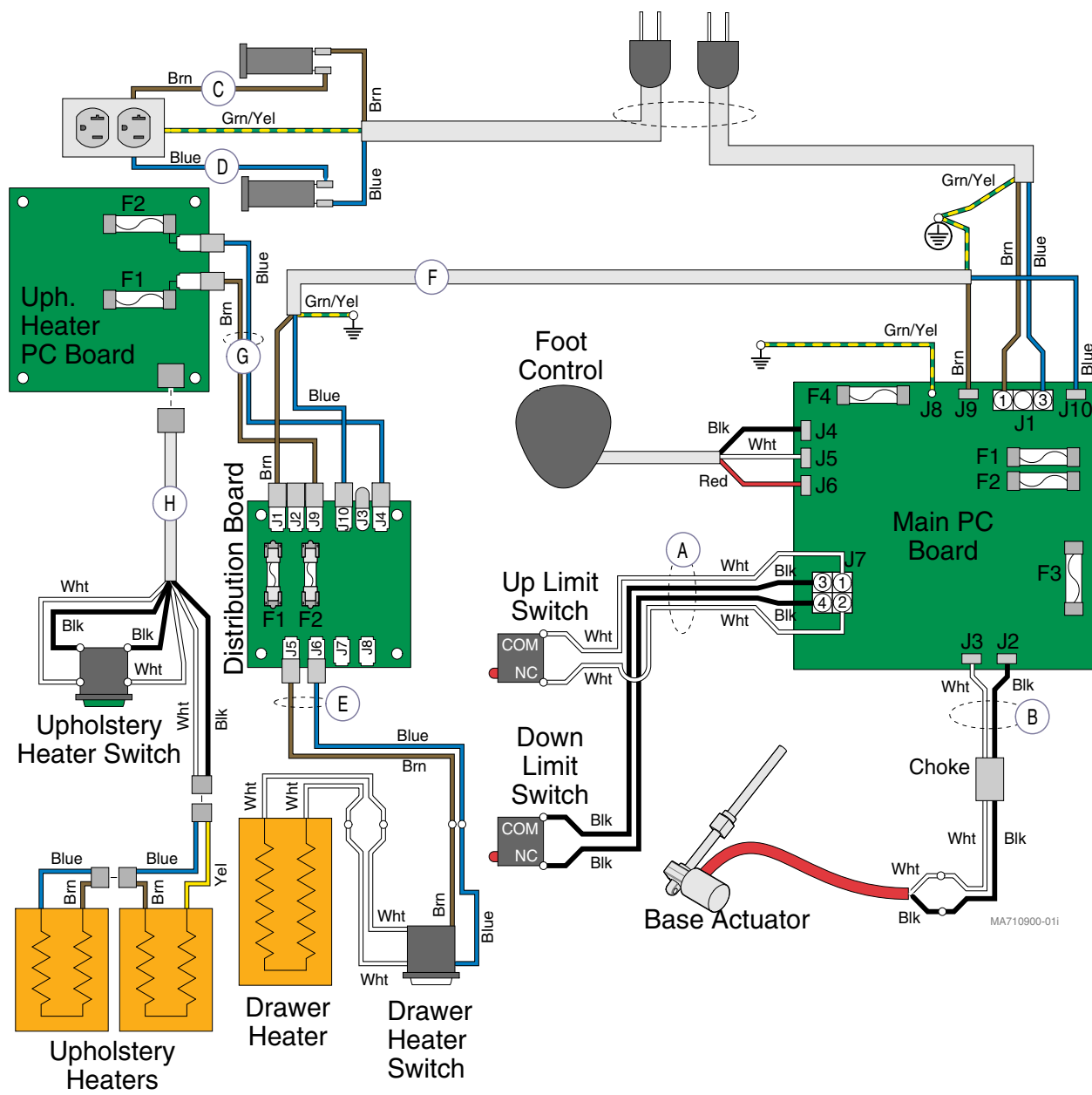
Wiring Diagrams

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Fuses

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Wire Harness	From:	To:	Part Number
A	BaseUp / Down Limit Switches	Main PC Board	015-2003-00
B	Base Actuator Wires	Main PC Board	015-1635-00 (incl. choke)
C	Circuit Breaker (brown wire)	Table Receptacle	015-1886-00
D	Circuit Breaker (blue wire)	Table Receptacle	015-1886-01
E	Drawer Heater Switch with Harness	Distribution Board	015-1759-00
F	Distribution Board	Main PC Board	015-2005-00
G	Distribution Board	Uph. Heater PC Board	015-2006-00
H	Uph. Heater Switch	Uph. Heater PC Board	015-1722-00

Models:
Serial Numbers:

622 (-008)
all

Wiring Diagrams

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Wiring Diagrams

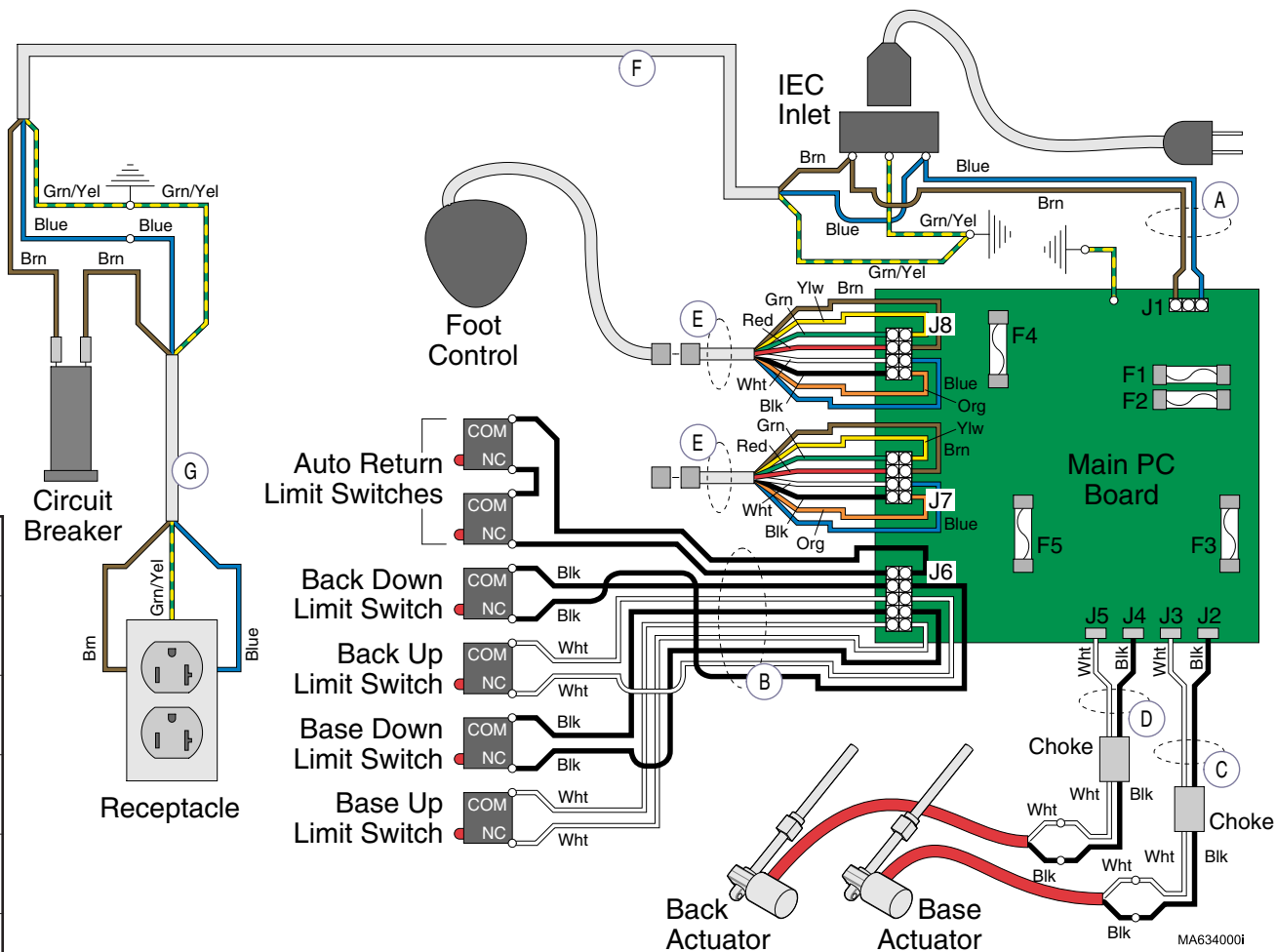
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Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1741-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1741-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Circuit Breaker	IEC Inlet	015-1594-00
G	Receptacle	Circuit Breaker	015-1595-00



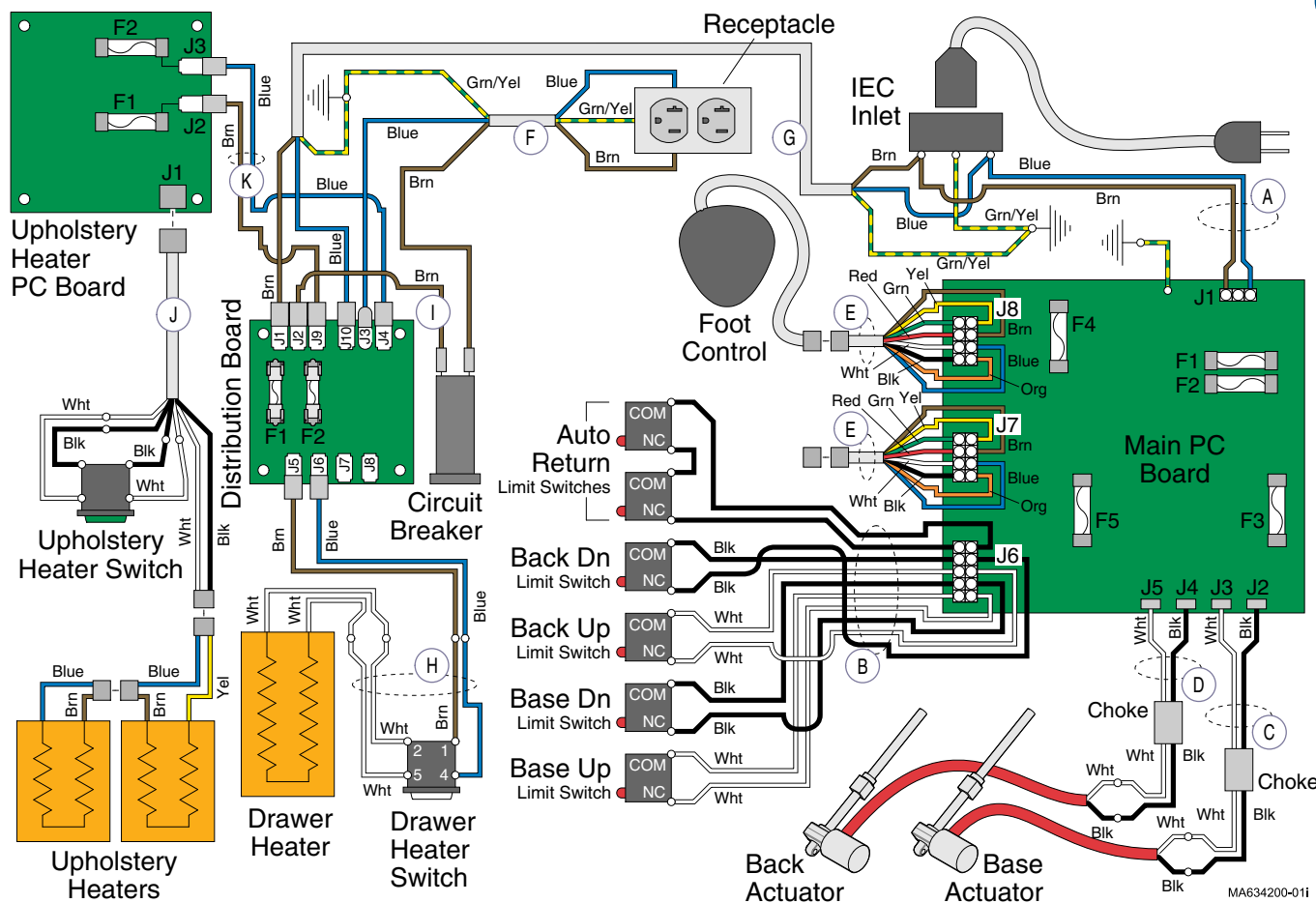
Wiring Diagrams

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1741-00 (includes Item B)
B	Base, Back, & Auto Return Limit Switches	Main PC Board	015-1741-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Receptacle	Circuit Breaker	015-1595-00
G	Distribution Board	IEC Inlet	015-1594-00
H	Heater Plate / Heater Switch	Distribution Board	015-1629-00
I	Circuit Breaker	Distribution Board	015-0708-30
J	Upholstery Heater Board	Upholstery Heater, On/Off Switch	015-1722-00
K	Distribution Board	Upholstery Heater Board	015-1720-00

Models:
Serial Numbers:

623 (-002)
all

Wiring Diagrams

D-27

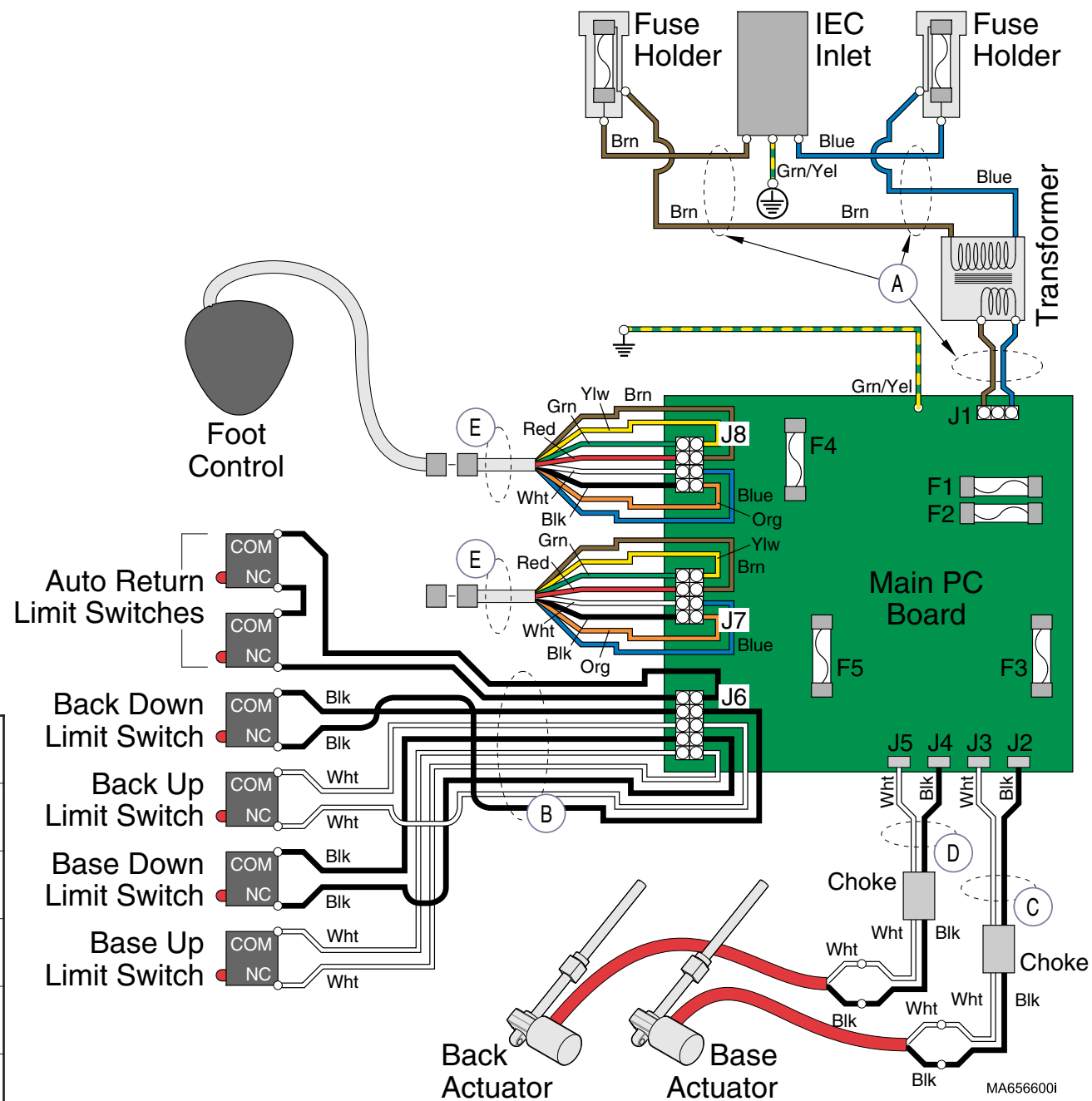
Wiring Diagrams

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Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1809-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1809-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00

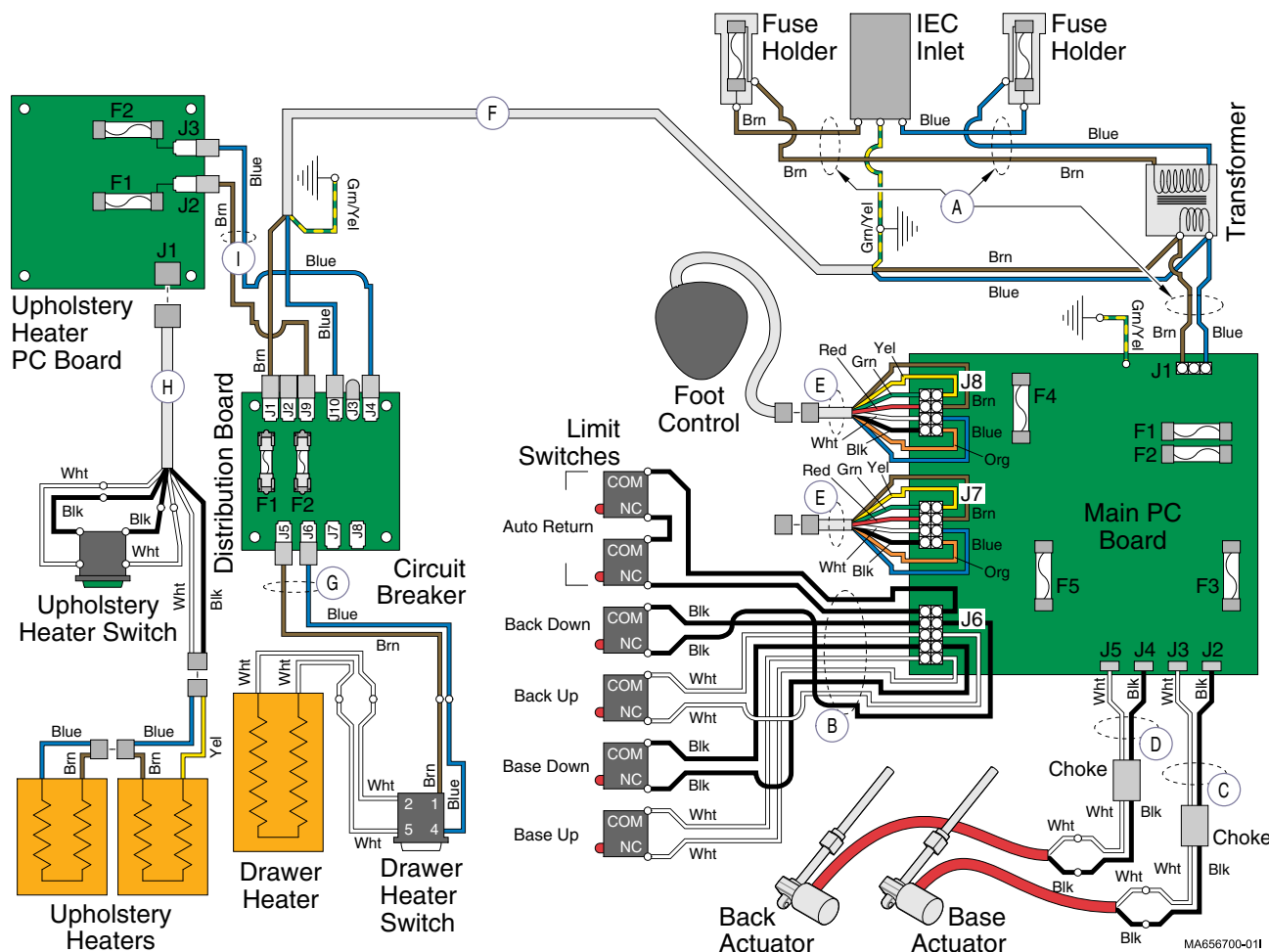
Wiring Diagrams

Refer To:

Fuses

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E-25



Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1809-00 <i>(includes Item B)</i>
B	Limit Switches (all)	Main PC Board	015-1809-00 <i>(includes Item A)</i>
C	Base Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
D	Back Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Distribution Board	IEC Inlet	015-2005-00
G	Drawer Heater Switch	Distribution Board	<i>623-004</i> 015-1629-00
	Drawer Heater Switch with Harness	Distribution Board	<i>623-010</i> 015-1759-00
H	Uph. Heater PC Board	Uph. Heater Switch	015-1722-00
I	Distribution Board	Uph. Heater PC Board	<i>623-004</i> 015-1720-00
			<i>623-010</i> 015-2006-00

Models:
Serial Numbers:

623 (-004)
all

623 (-010)
V2200 thru V256516

Wiring Diagrams

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Wiring Diagrams

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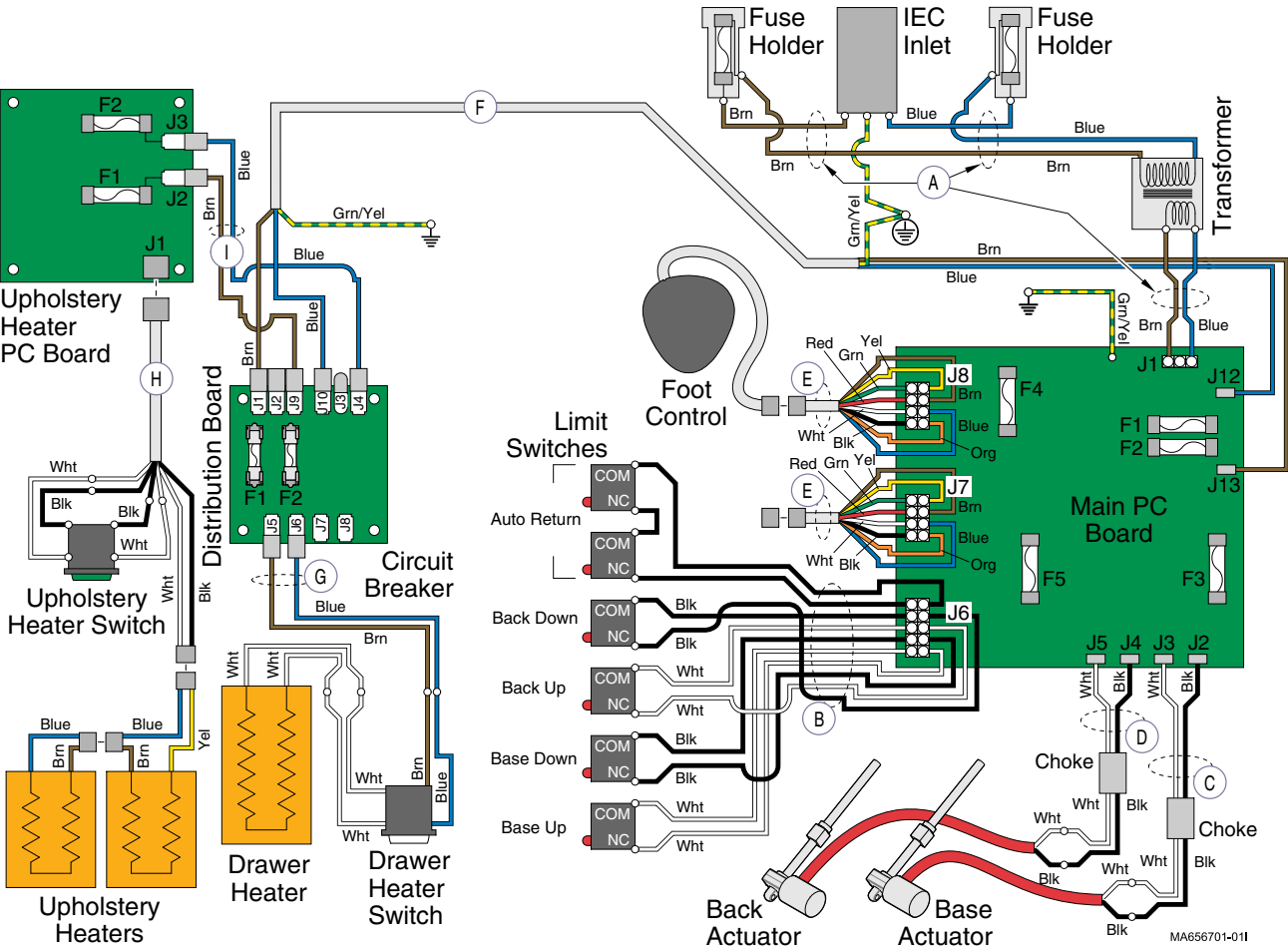
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E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1809-00 <i>(includes Item B)</i>
B	Limit Switches (all)	Main PC Board	015-1809-00 <i>(includes Item A)</i>
C	Base Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
D	Back Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Distribution Board	IEC Inlet	015-2005-00
G	Drawer Heater Switch	Distribution Board	623-004 015-1629-00
	Drawer Heater Switch with Harness	Distribution Board	623-010 015-1759-00
H	Uph. Heater PC Board	Uph.Heater Switch	015-1722-00
I	Distribution Board	Uph. Heater PC Board	623-004 015-1720-00
			623-010 015-2006-00

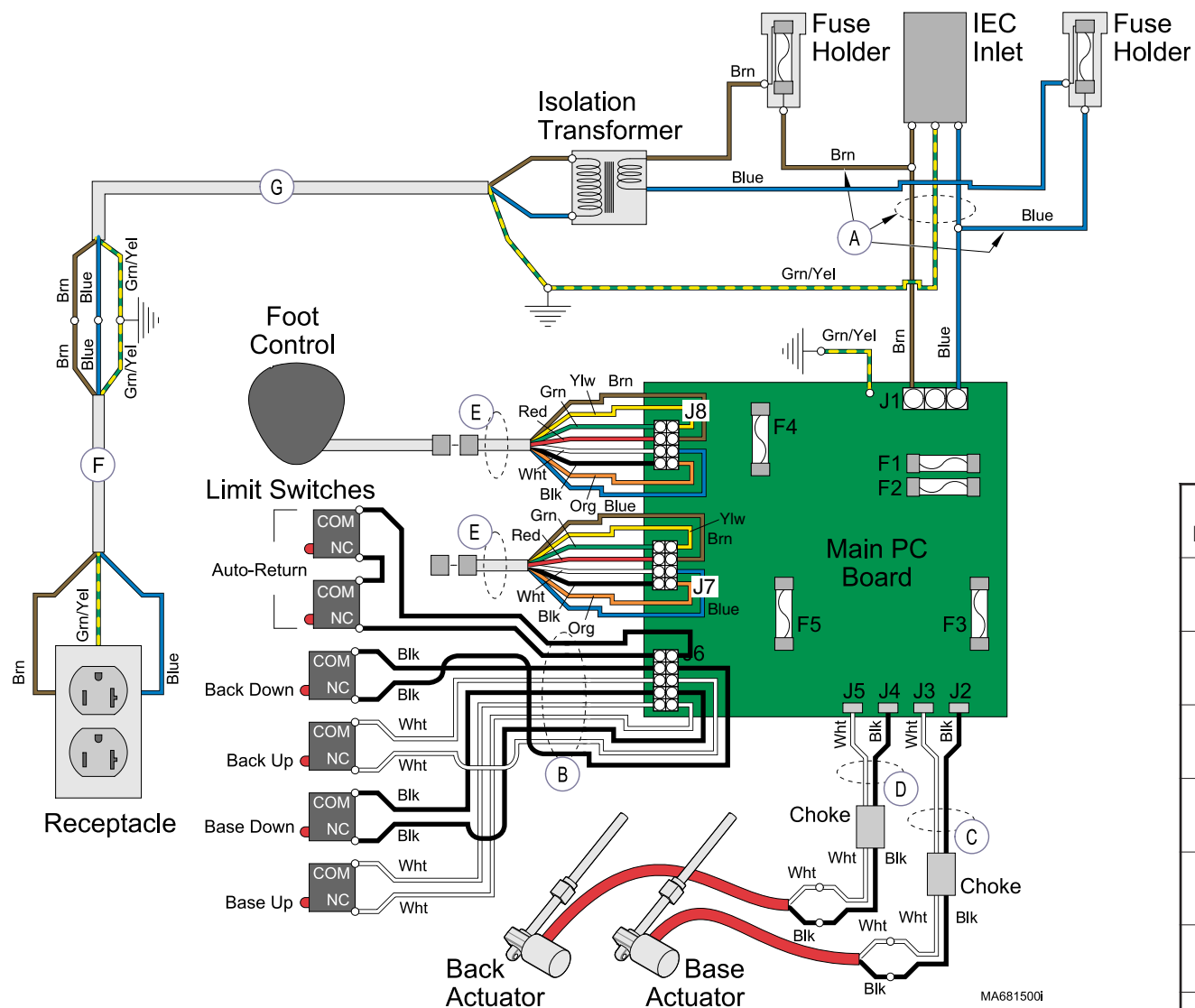


Wiring Diagrams

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Fuses E-25

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Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1854-00 (includes Item B)
B	Base & Back Limit Switches	Main PC Board	015-1854-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Receptacle	Item G	015-1595-00
G	Isolation Transformer	Item F	015-1845-00

Models:
Serial Numbers:

623 (-005)
all

Wiring Diagrams

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Wiring Diagrams

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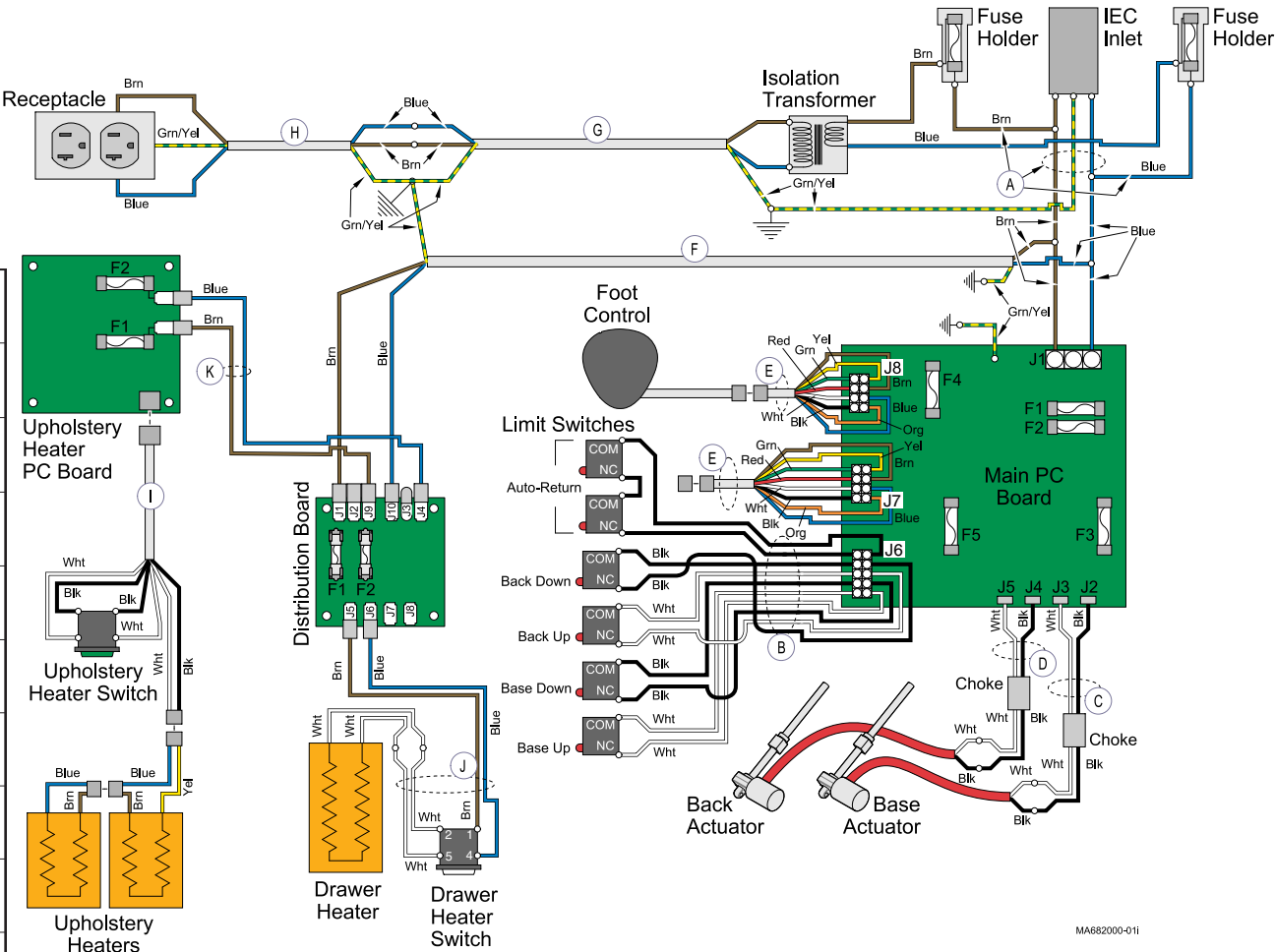
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Fuses

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E-25

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1854-00 <i>(includes Item B)</i>
B	Limit Switches (all)	Main PC Board	015-1854-00 <i>(includes Item A)</i>
C	Base Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
D	Back Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Distribution Board	Item A	015-1594-00
G	Isolation Transformer	Item H	015-1845-00
H	Receptacle	Item G	015-1595-00
I	Uph. Heater PC Board	Upholstery Heater Switch	015-1722-00
J	Drawer Heater Plate / Switch	Distribution Board	015-1629-00
K	Distribution Board	Uph. Heater PC Board	015-1720-00



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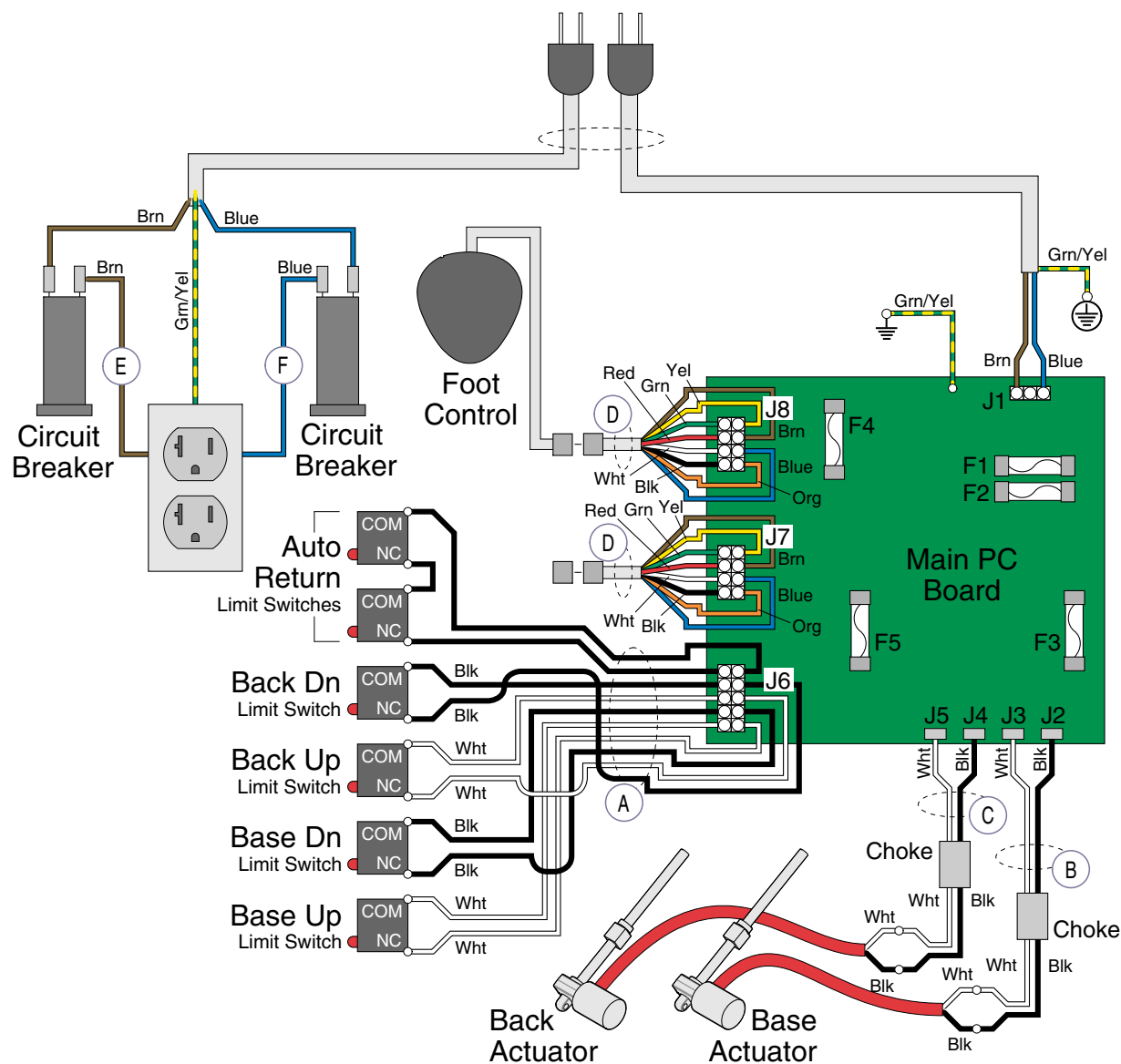
Wiring Diagrams

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Fuses

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Wire Harness	From:	To:	Part Number
A	Limit Switches (all)	Main PC Board	015-2008-00
B	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
C	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Foot / Hand Control Inlet Harness	Main PC Board	015-3464-00
E	Circuit Breaker (brown wire)	Table Receptacle	015-1886-00
F	Circuit Breaker (blue wire)	Table Receptacle	015-1886-01

Models:
Serial Numbers:

623 (-007)
all

Wiring Diagrams

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Wiring Diagrams

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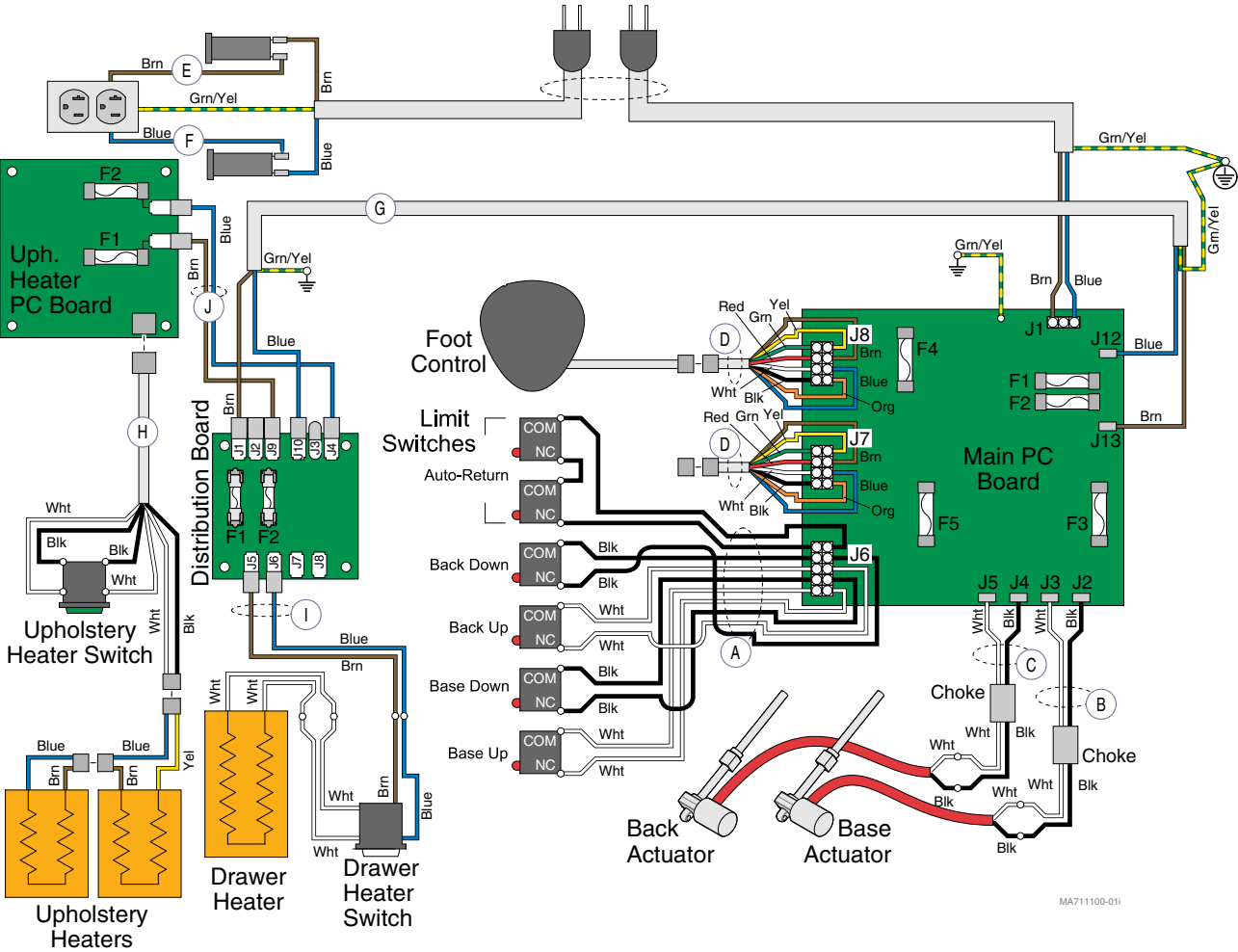
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Fuses

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E-25

Wire Harness	From:	To:	Part Number
A	Limit Switches (all)	Main PC Board	015-2008-00
B	Base Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
C	Back Actuator Wires	Main PC Board	015-1635-00 <i>(includes choke)</i>
D	Foot Control Inlet Harness	Main PC Board	015-3464-00
E	Circuit Breaker (brown wire)	Table Receptacle	015-1886-00
F	Circuit Breaker (blue wire)	Table Receptacle	015-1886-01
G	Distribution Board	Main PC Board	015-2005-00
H	Uph. Heater PC Board	Upholstery Heater Switch	015-1722-00
I	Drawer Heater Switch with Harness	Distribution Board	015-1759-00
J	Distribution Board	Uph. Heater PC Board	015-2006-00



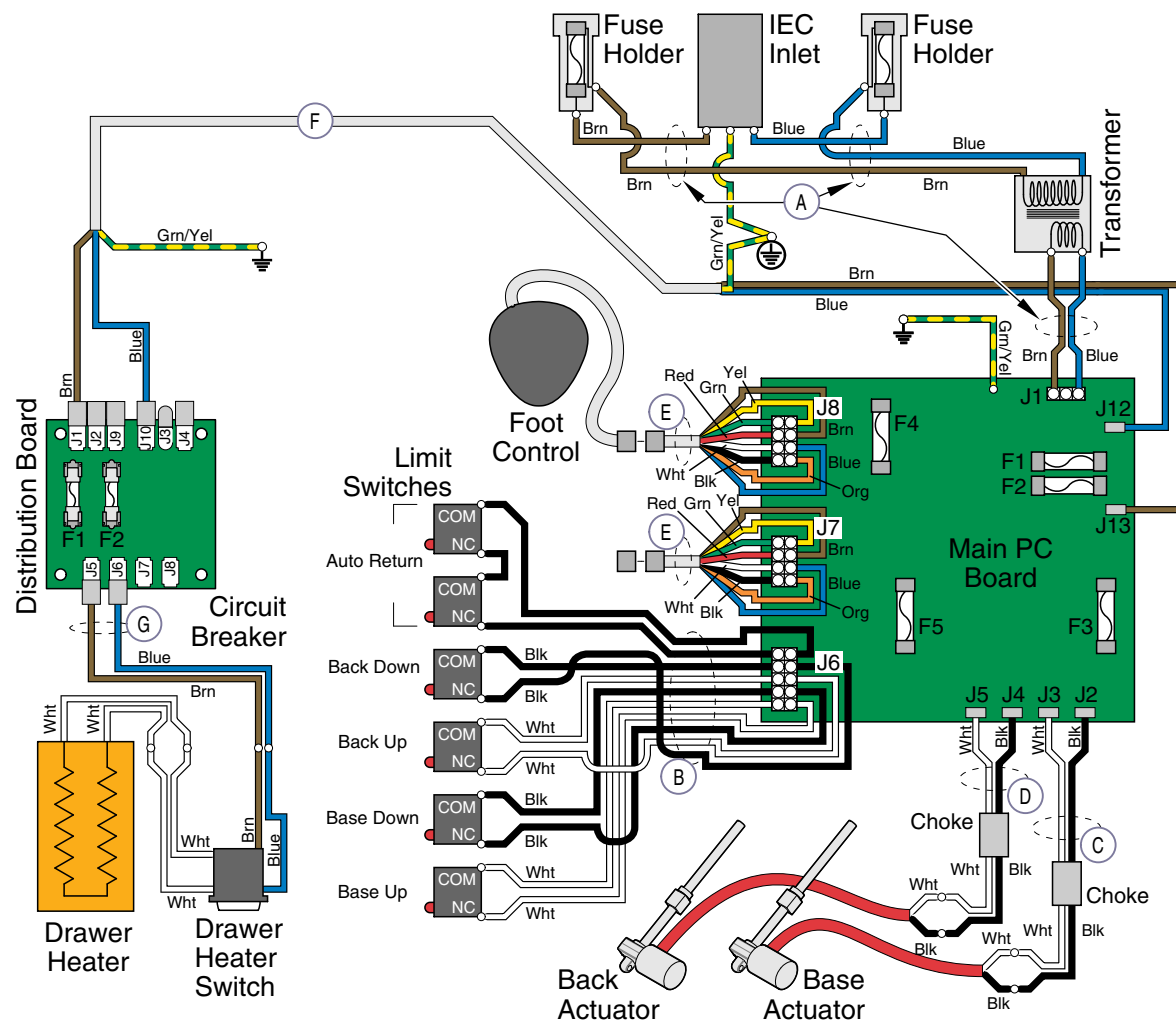
MA711100-011

Wiring Diagrams

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Fuses E-25

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MA8801i

Wire Harness	From:	To:	Part Number
A	IEC Inlet	Main PC Board	015-1809-00 (includes Item B)
B	Limit Switches (all)	Main PC Board	015-1809-00 (includes Item A)
C	Base Actuator Wires	Main PC Board	015-1635-00 (includes choke)
D	Back Actuator Wires	Main PC Board	015-1635-00 (includes choke)
E	Foot Control Inlet Harness	Main PC Board	015-3464-00
F	Distribution Board	IEC Inlet	015-2005-00
G	Drawer Heater Switch with Harness	Distribution Board	015-1759-00

Models:
Serial Numbers:

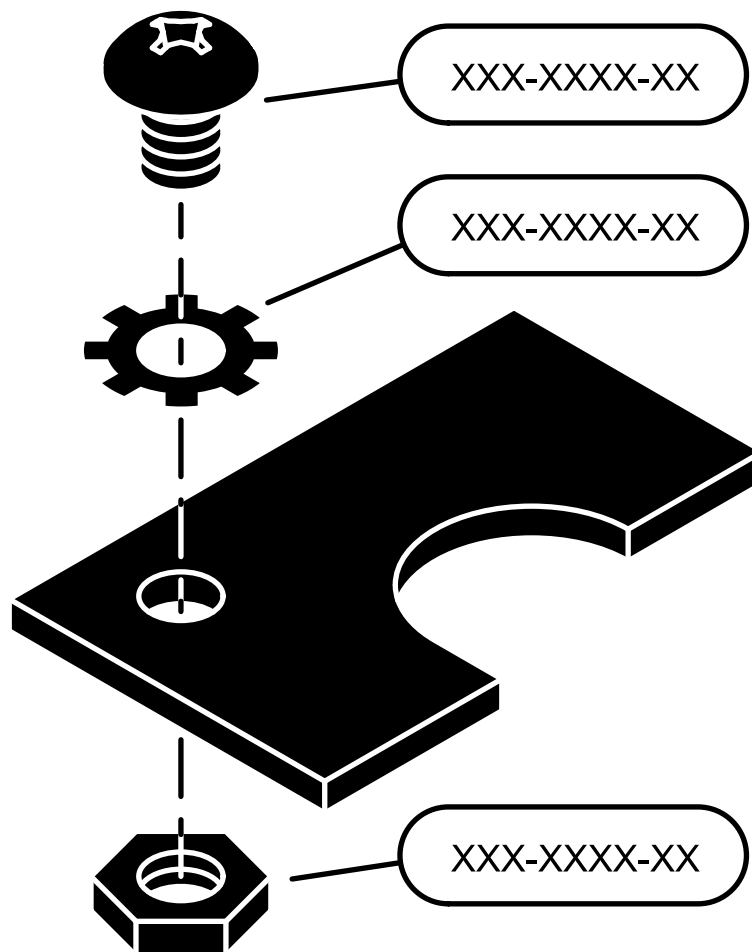
623 (-011)
all

Wiring Diagrams

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Section E

Exploded Views & Parts Lists



Model

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222	E-2
223	E-3
622	E-4
623	E-5

Upholstery - Ritter:

Soft Touch E-6*
Seamless E-7*

*includes:
footrest pad, paper roll holder,
handles, etc.*

**Ritter Upperwrap
& Footrest Shelf E-16***

*includes:
footrest shelf, stirrup guide,
treatment pan, etc.*

Stirrups. E-18

**Exam Assistant
Drawer Assy. E-26**

**Foot Control:
222 / 622 E-27**

**Base
Actuator. E-22**

Fuses (all) E-25

**PC Board Enclosure:
Manual Back Models E-23**

*includes:
PC Board, cover, mtg hardware*

Optional Features

Drawer Heater E-31*
Pelvic Tilt E-32*
Table Receptacle E-34*
Transformer / Fuses:
230 VAC Models E-36
Canadian Models E-35

**Manual Back
Components E-10*
Handle Kit E-11**

*includes:
gas spring, top cover, handles,
release mechanism, etc.*

**Base Scissor /
Slide Mechanism E-19*****Ritter Base
Components E-20***

*includes:
power cord, base slides
base limit switches, etc.*

**Label
Location E-38**

**Table Shrouds:
Ritter Models E-14***

MA715300i

Upholstery - Ritter:

Soft Touch E-6*
Seamless E-7*

includes:
footrest pad, paper roll holder,
handles, etc.

Ritter Upperwrap & Footrest Shelf E-16.1*

includes:
footrest shelf, stirrup guide,
treatment pan, etc.

Stirrups E-18

Exam Assistant
Drawer Assy. E-26

Table Receptacle
System E-34*

Foot Control:
223 E-28*

Base Actuator. E-22

Hand Control E-30*
(Optional)

PC Board Enclosure: Power Back Models E-24

includes:
PC Board, cover, mtg hardware

Optional Features

Drawer Heater E-31*

Pelvic Tilt E-32*

Transformer / Fuses:

230 VAC Models E-36

Canadian Models E-35

Power Back Components E-12*

includes:
limit switches, top cover, etc.

Back Actuator E-13

Base Scissor /
Slide Mechanism E-19.2*

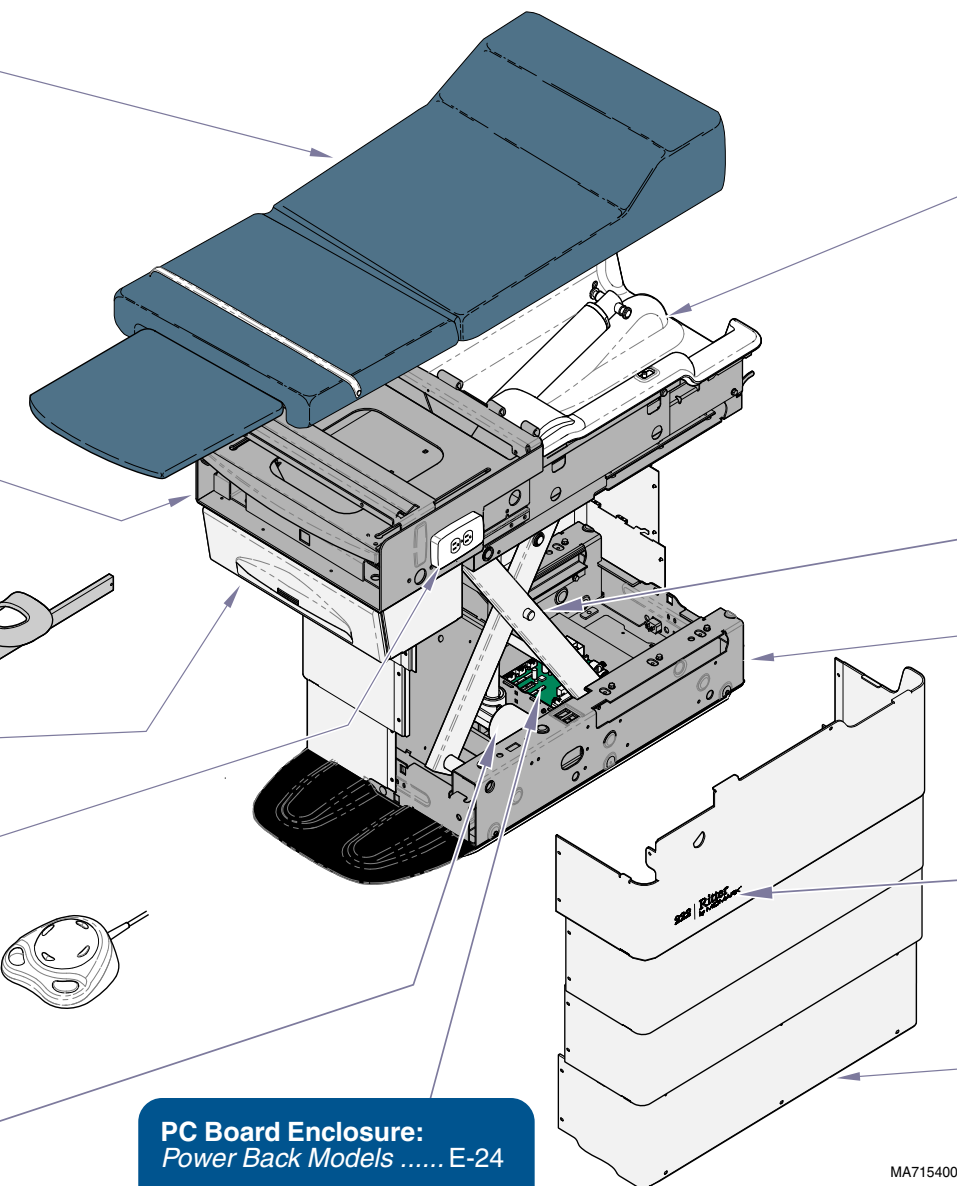
Ritter Base
Components E-20.2*

includes:
power cord, base slides
base limit switches, etc.

Label
Location E-38

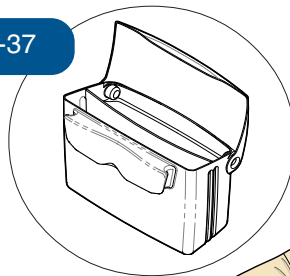
Table Shrouds:
Ritter Models E-14.1*

Fuses (all) E-25



* Indicates multiple pages due to a model / serial number break for the parts illustration

Storage Pod E-37

**Upholstery - Midmark:**

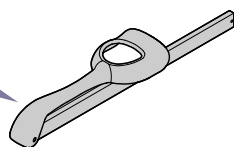
Premium E-8*
Ultra-Premium E-9*

includes:
footrest pad, paper roll holder,
handles, etc.

**Midmark Upperwrap
& Footrest Shelf E-17***

includes:
footrest shelf, stirrup guide,
treatment pan, etc.

Stirrups E-18

Exam Assistant
Drawer Assy. E-26Foot Control:
222 / 622 E-27Table Receptacle
System E-34*Base
Actuator. E-22**PC Board Enclosure:
Manual Back Models E-23**

includes:
PC Board, cover, mtg hardware

Optional Features

Drawer Heater E-31*
Pelvic Tilt E-32*
Upholstery Heater E-33
Transformer / Fuses:
230 VAC Models E-36
Canadian Models E-35

**Manual Back
Components E-10***
Handle Kit E-11

includes:
gas spring, top cover, handles,
release mechanism, etc.

**Base Scissor /
Slide Mechanism E-19.2*****Midmark Base
Components E-21***

includes:
power cord, base slides
base limit switches, etc.

Label
Location E-38Table Shrouds:
Midmark Models E-15*

Fuses (all) E-25

MA715500i

623

Storage Pod E-37

Hand Control E-30*

Upholstery - Midmark:
Premium E-8*
Ultra-Premium E-9*

includes:
 footrest pad, paper roll holder,
 handles, etc.

**Midmark Upperwrap
 & Footrest Shelf** E-17*

includes:
 footrest shelf, stirrup guide,
 treatment pan, etc.

Stirrups E-18

**Exam Assistant
 Drawer Assy.** E-26

Foot Control:
 623 E-29*

**Base
 Actuator** E-22

Fuses (all) E-25

PC Board Enclosure:
 Power Back Models E-24

includes:
 PC Board, cover, mtg hardware

Optional Features

Drawer Heater E-31*
Pelvic Tilt E-32*
Table Receptacle E-34*
Upholstery Heater E-33
Transformer / Fuses:
 230 VAC Models E-36
 Canadian Models E-35

**Power Back
 Components** E-12*

includes:
 limit switches, top cover, etc.

Back Actuator E-13

**Base Scissor /
 Slide Mechanism** E-19.2*

**Midmark Base
 Components** E-21.1*

includes:
 power cord, base slides
 base limit switches, etc.

**Label
 Location** E-38

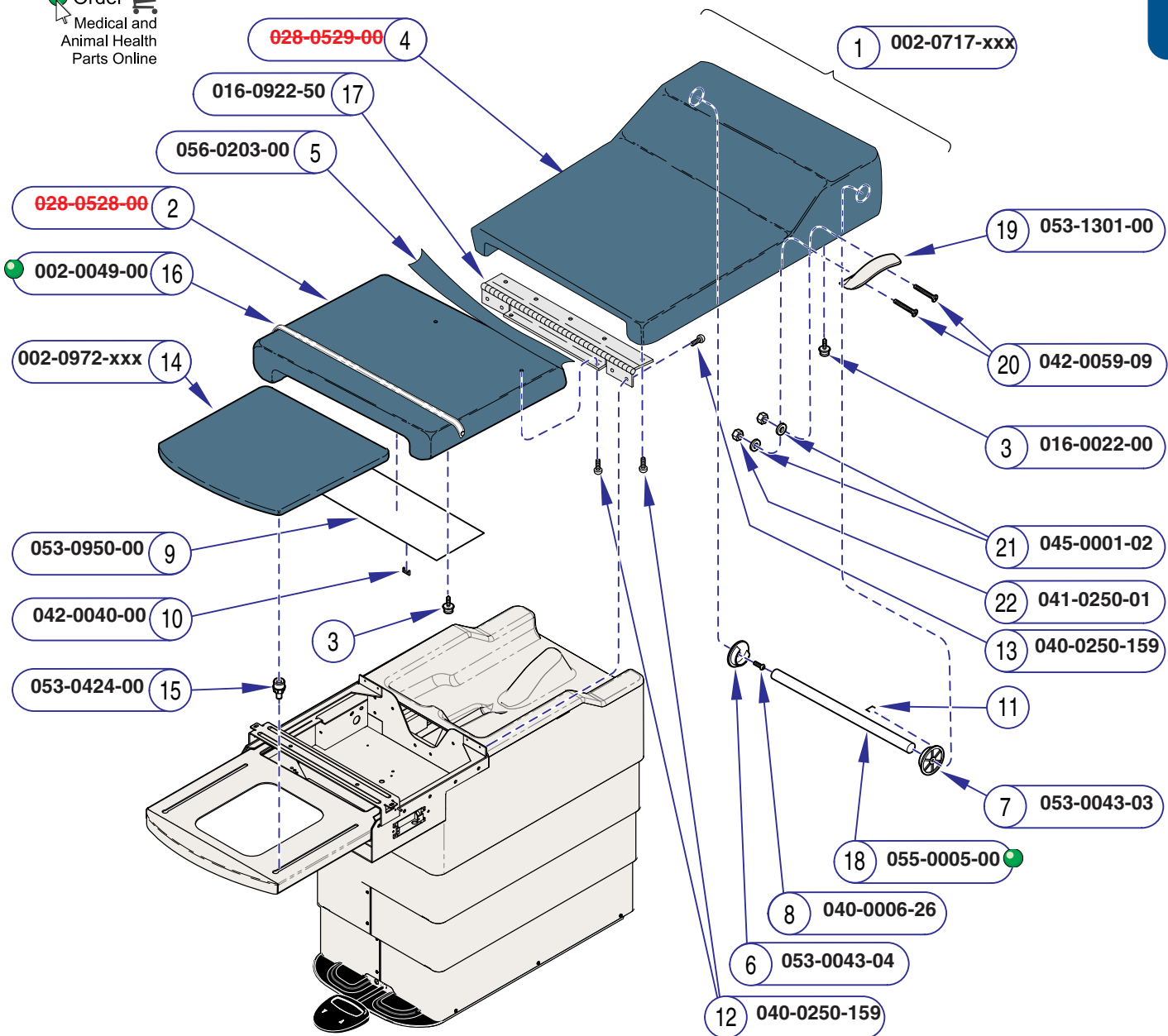
Table Shrouds:
 Midmark Models E-15*

MA715600i

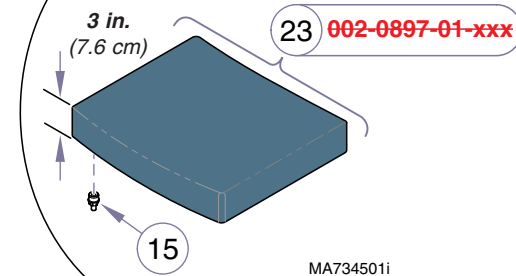
* Indicates multiple pages due to a model / serial number break for the parts illustration

Refer To:

Color Selector www.midmark.com



Item #23 is a special order option.
Note: The footrest shelf will not slide into the stowed position with this pad installed.



ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

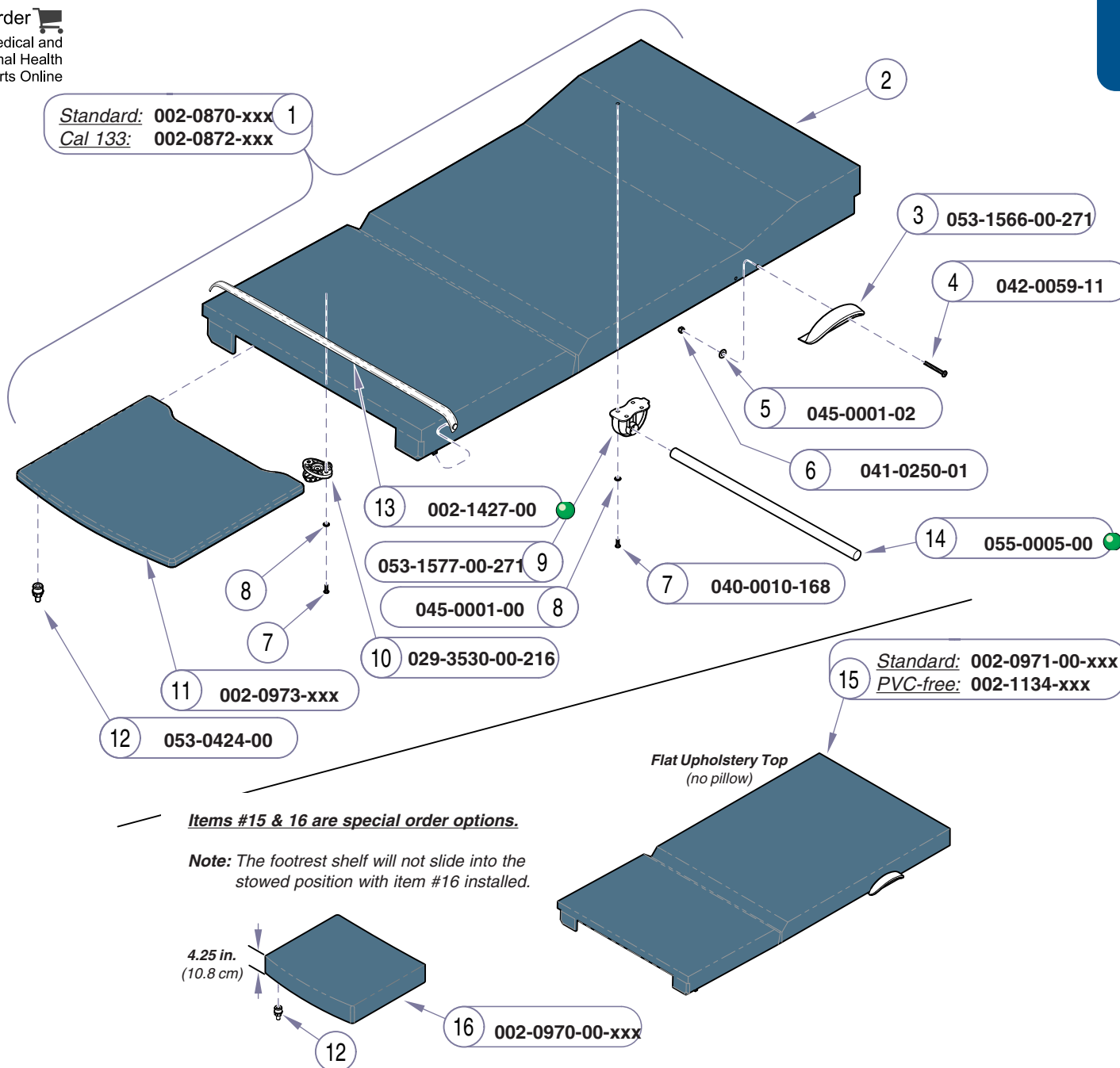
Item	Description	Qty.
1	Cut & Sewn Upholstery Kit 1 (includes items 2 thru 13)	1
2	• Upholstered Seat w/Stud (specify color) ..	1
3	• Stud	4
4	• Upholstered Headboard w/Stud (specify color)	1
5	• Hinge Cover (specify color)	1
6	• R.H. Dowel Socket	1
7	• L.H. Dowel Socket	1
8	• Screw (#6 x .5")	2
9	• Scuff Plate	1
10	• Staple	10
11	• Staple	AR
12	• Screw	4
13	• Screw (1/4-20 x .87")	8
14	Upholstered Footrest (specify color) [includes four glides (item #15)]	1
15	Footrest Glide	4
16	Tear Straps Kit (includes two straps)	1
17	Hinge Assembly	1
18	Dowel Rod	1
19	Release Handle Grip (222 only)	2
20	Screw (1/4-20 x 1.75" [222 only])	4
21	Washer (222 only)	4
22	Nut (1/4-20 [222 only])	4
23	Footrest Pad - special (3 in. thick) [includes four glides (item #15)]	1
24	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

Upholstery - Ritter
(Soft Touch)

Models: 222 (-001 thru -004, -011, -012)
Serial Numbers: All

Models: 223 (-001 thru -004, -011, -012)
Serial Numbers: All



ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set (includes items 2 thru 12) ...	1
2	• Seat/Back Upholstery	1
3	• Handle	2
4	• Screw	4
5	• Washer	4
6	• Nylock Nut	4
7	• Screw (10-24 x 5/8")	16
8	• Washer (early models only)	16
9	• Paper Roll Bracket	2
10	• Locking Knob	6
11	• Footrest Pad [includes four glides (item #12)]	1
12	• Footrest Glide	4
13	Tear Strap	1
14	Dowel Rod	1
15	Flat Upholstery Top (includes items 3 thru 10)	1
16	Footrest Pad - special (4.25 in. thick) [includes four glides (item #12)]	1
17	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

MA705501i

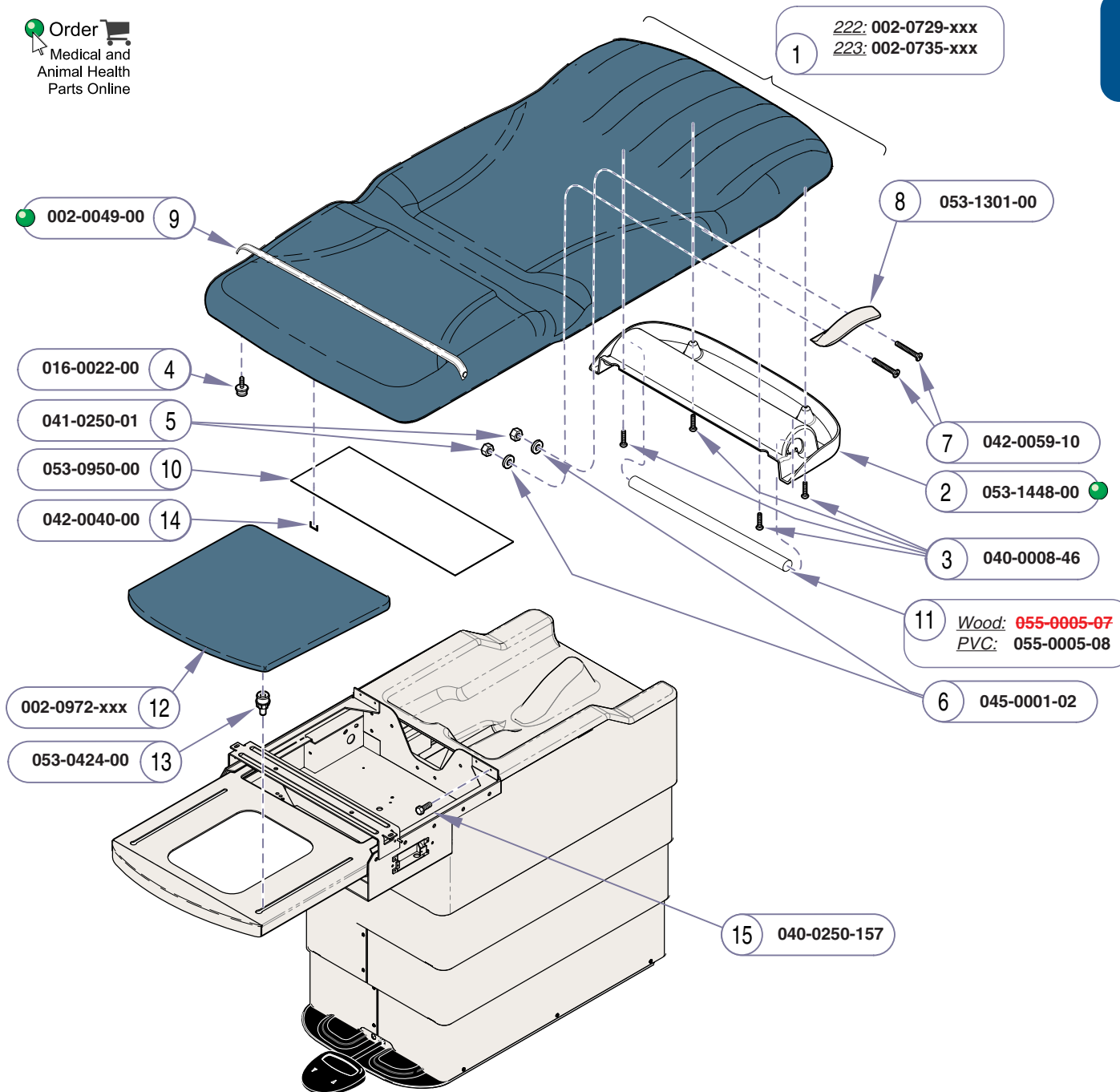
Models: 222 (-015 thru -017) | 223 (-015 & -016)
Serial Numbers: All | All

Upholstery - Ritter
(Soft Touch)

E-6.1

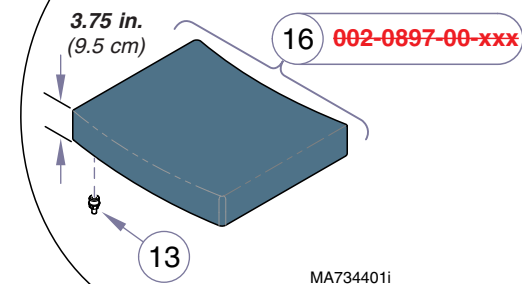
Refer To:

Color Selector www.midmark.com



Item #16 is a special order option.

Note: The footrest shelf will not slide into the stowed position with this pad installed.



MA734401i

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Seamless Upholstery Top: 222 (includes items 2 thru 8)	1
	223 (includes items 2 thru 4)	1
2	• Paper Roll Holder	1
3	• Screw	4
4	• Stud	2
5	• Nut (222 only)	4
6	• Washer (222 only)	4
7	• Bolt (222 only)	4
8	• Release Handle Grip (222 only)	2
9	Tear Strap Kit	1
10	Scuff Plate	1
11	Dowel Rod	1
12	Upholstered Footrest (specify color) [includes four glides (item #13)]	1
13	Footrest Guide	4
14	Staple	10
15	Bolt	4
16	Footrest Pad - special (3.75 in. thick) [includes four glides (item #13)]	1
17	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

MA618505

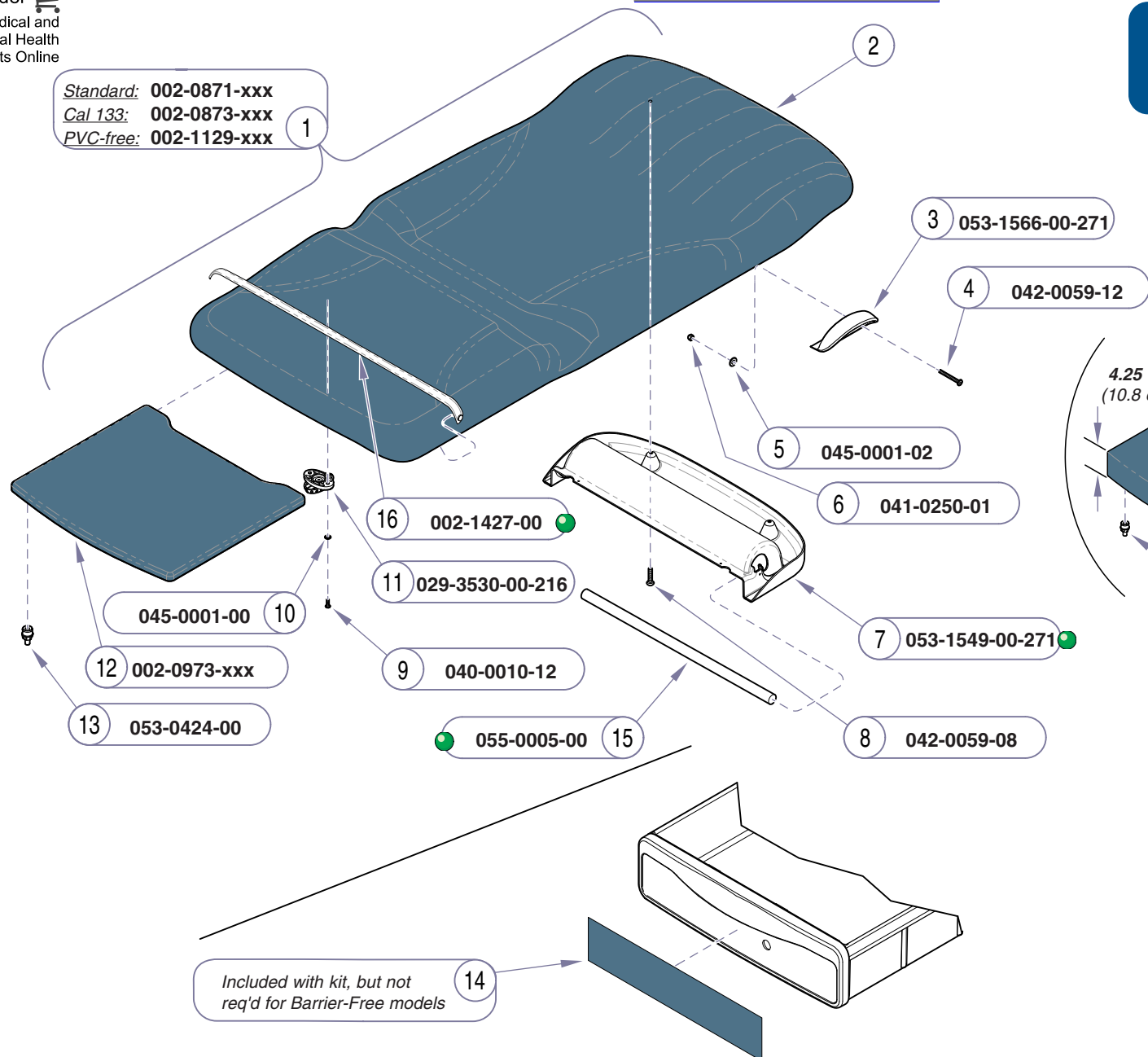
Upholstery - Ritter
(Seamless)

Models: 222 (-005 thru -010, -013, -014)
Serial Numbers: All

223 (-005 thru -010, -013, -014)
All

Refer To:

Color Selector www.midmark.com



Item #17 is a special order option.

Note: The footrest shelf will not slide into the stowed position with this pad installed.

Standard: 002-0897-02-xxx
PVC-free: 002-1135-xxx

MA734401i

ATTENTION: Refer to Color Selector link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set (includes items 2 thru 14) ...	1
2	• Seat/Back Upholstery	1
3	• Handle	2
4	• Bolt (1/4-20 x 1.578")	4
5	• Washer	4
6	• Nylock Nut	4
7	• Paper Roll Housing	1
8	• Screw (10-24 x 5/8")	4
9	• Screw	12
10	• Washer	12
11	• Locking Knob	6
12	• Footrest Pad - standard [includes four glides (item #13)]	1
13	• Footrest Glide	4
14	• Drawer Insert (for MET models only)	8
15	Dowel Rod	1
16	Tear Strap	1
17	Footrest Pad - special (4.25 in. thick) [includes four glides (item #13)]	1
18	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

MA705600i

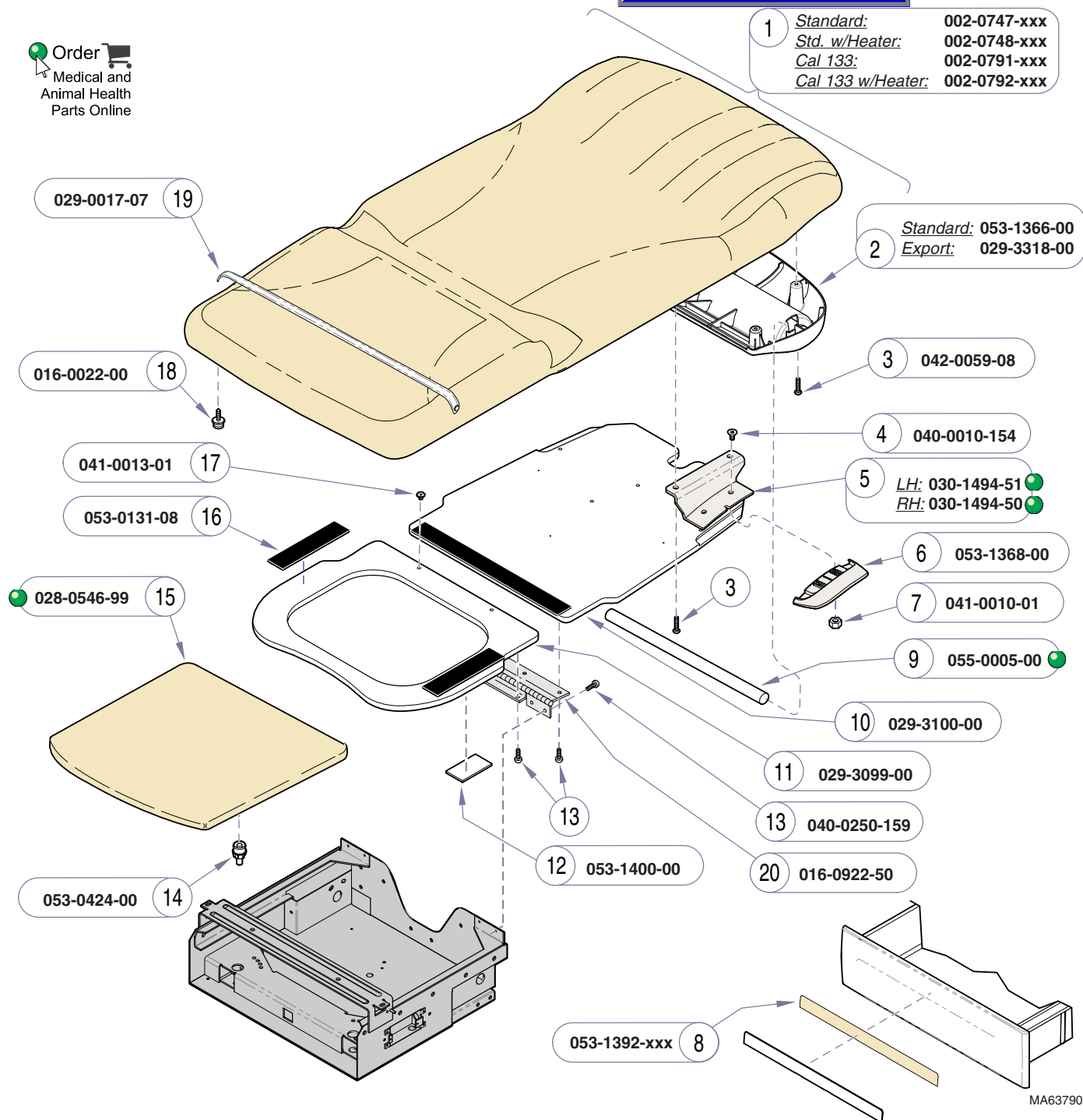
Models: 222 (-015 thru -017) 223 (-015 & -016)
Serial Numbers: All All

Upholstery - Ritter
(Seamless)

E-7.1

Refer To:

Color Selector www.midmark.com



ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set (incl. items 2 thru 8)	1
2	• Paper Roll Holder - Export used on 622/623 (-003 & -004) only	1
3	• Screw (1/4 x 20 x .78")	8
4	• Screw (#10- 32 x .43")	4
5	• Grip Handle Bracket (LH shown)	1
6	• Grip Handle	2
7	• Nut (#10-32)	4
8	• Vinyl Drawer Insert	1
9	Paper Roll Dowel Rod	2
10	Back Mounting Frame (includes item 16)	1
11	Seat Mounting Frame (includes item 16)	1
12	Scuff Plate	2
13	Screw	4
14	Footrest Guide	4
15	Upholstered Footrest (specify color) [includes four glides (item #14)]	1
16	Velcro Hook (2" x 9")	2
17	Nutsert	11
18	Stud	2
19	Tear Straps Kit (includes two straps)	1
20	Hinge	1
21	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

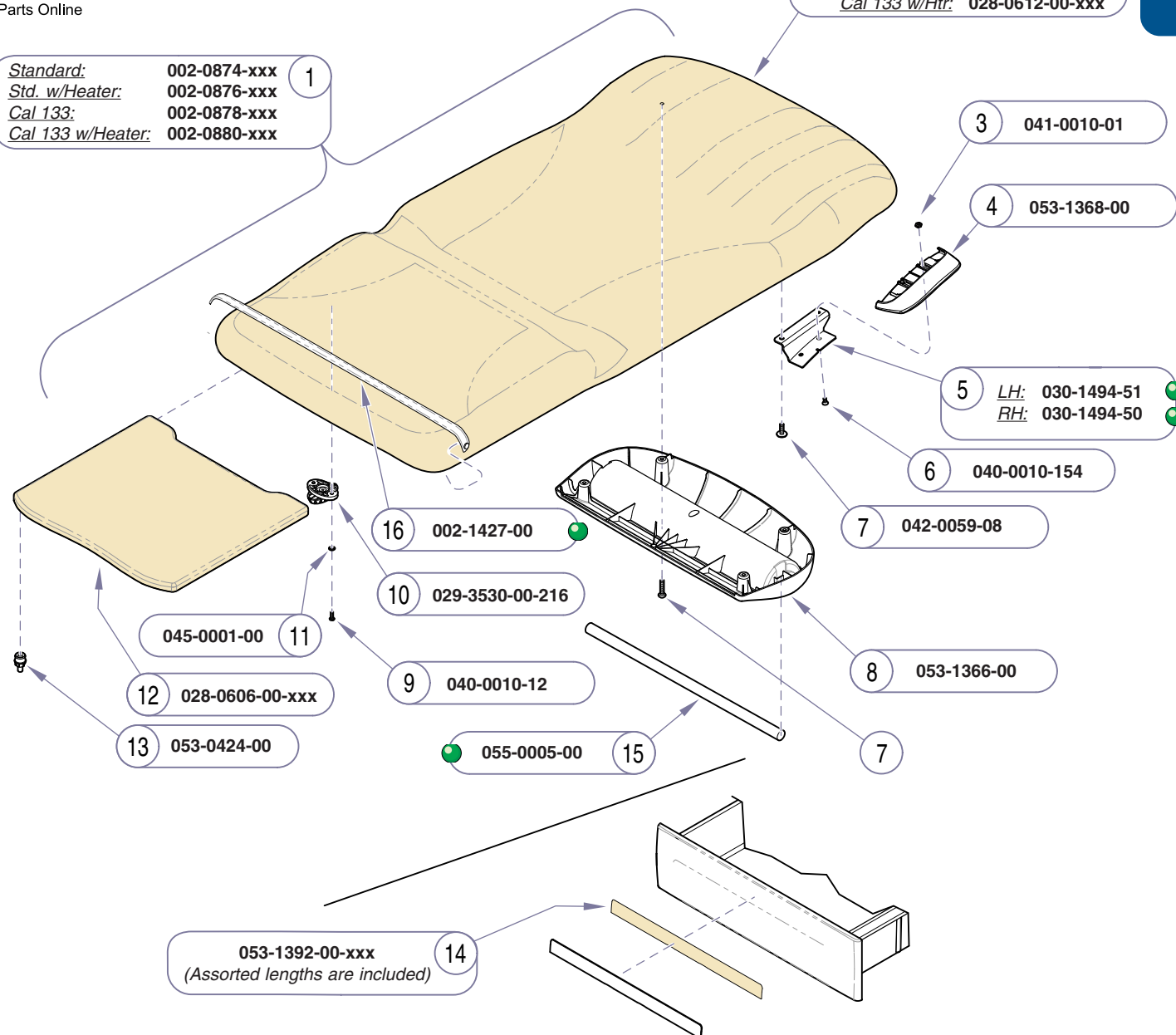
Always Specify Model & Serial Number

Upholstery - Midmark
(Premium)

Models: 622 (-001 thru -006) | 623 (-001 thru -006)
Serial Numbers: All | All

Standard: 002-0874-xxx
Std. w/Heater: 002-0876-xxx
Cal 133: 002-0878-xxx
Cal 133 w/Heater: 002-0880-xxx

2 Standard: 028-0601-00-xxx
Std. w/Htr: 028-0603-00-xxx
Cal 133: 028-0610-00-xxx
Cal 133 w/Htr: 028-0612-00-xxx



ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set (includes items 2 thru 14) ...	1
2	• Seat/Back Upholstery	1
3	• Nut	4
4	• Handle	2
5	• Handle Bracket	2
6	• Screw	4
7	• Screw (10-24 x 5/8)	8
8	• Paper Roll Housing	1
9	• Screw	12
10	• Locking Knob	6
11	• Washer	12
12	• Footrest Pad	
	[includes four glides (item #13)]	1
13	• • Footrest Glide	4
14	• Vinyl Drawer Insert	6
15	Dowel Rod	1
16	Tear Strap	1
17	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

MA705700i

Models:
Serial Numbers:

622 (-007 & -008)
All

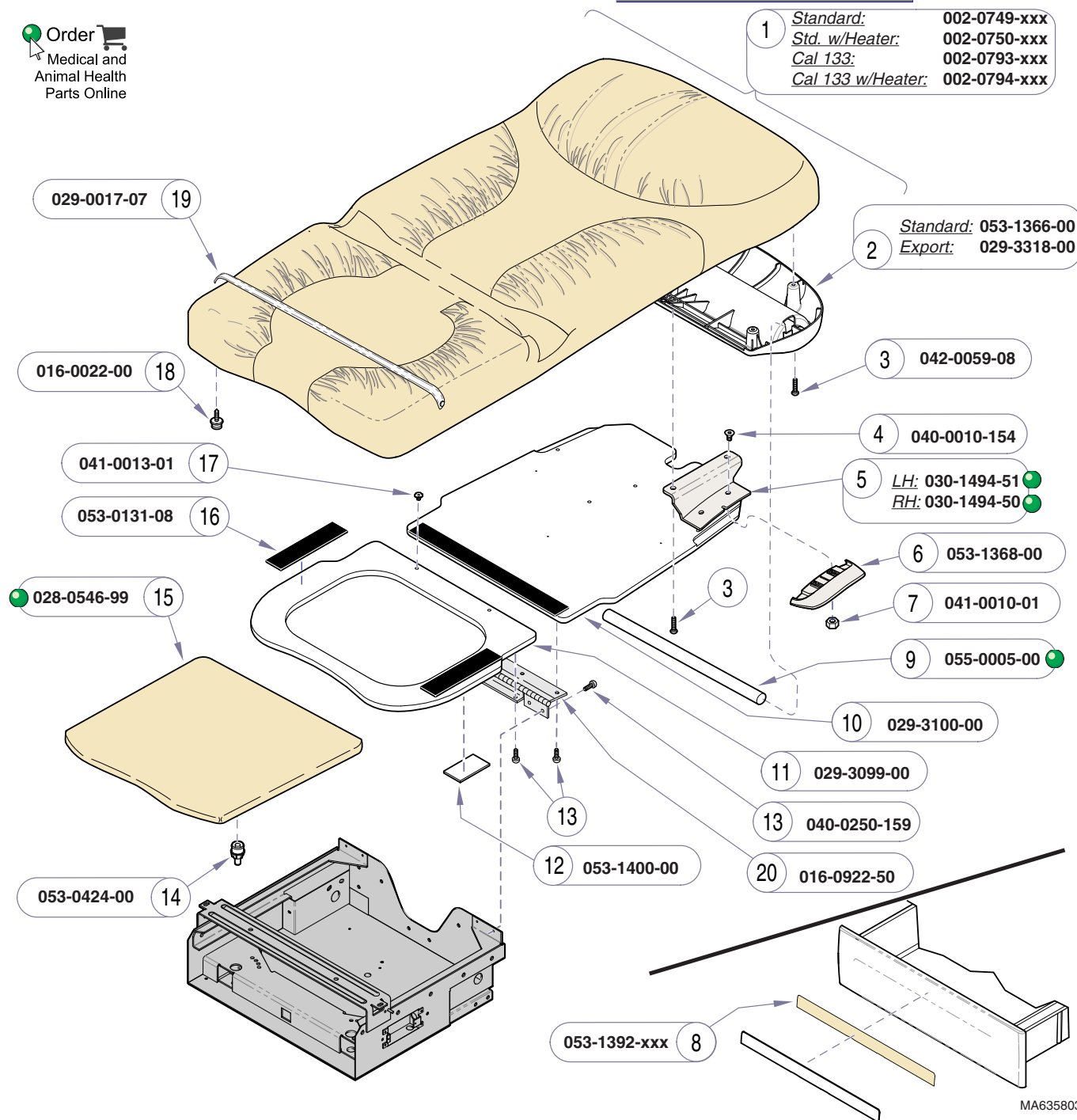
623 (-007 thru -011)
All

Upholstery - Midmark
(Premium)

E-8.1

Refer To:

Color Selector www.midmark.com



ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set (incl. items 2 thru 7)	1
2	• Paper Roll Holder - Export used on 622/623 (-003 & -004) only	1
3	• Screw (1/4 x 20 x .78")	8
4	• Screw (#10- 32 x .43")	4
5	• Grip Handle Bracket (LH shown)	1
6	• Grip Handle	2
7	• Nut (#10-32)	4
8	• Vinyl Drawer Insert	1
9	Paper Roll Dowel Rod	2
10	Back Mounting Frame (includes item 16)	1
11	Seat Mounting Frame (includes item 16)	1
12	Scuff Plate	2
13	Screw	4
14	Footrest Guide	4
15	Upholstered Footrest (specify color) [includes four glides (item #14)]	1
16	Velcro Hook (2" x 9")	2
17	Nutsert	11
18	Stud	2
19	Tear Strap Kit (includes two straps)	1
20	Hinge	1
21	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

Upholstery - Midmark
(Ultra-Premium)

Models: 622 (-001 thru -006) | 623 (-001 thru -006)
Serial Numbers: All | All

Standard: 002-0875-xxx
Std. w/Heater: 002-0877-xxx
Cal 133: 002-0879-xxx
Cal 133 w/Heater: 002-0881-xxx

1

2

Standard: 028-0602-00-xxx
Std. w/Htr: 028-0604-00-xxx
Cal 133: 028-0611-00-xxx
Cal 133 w/Htr: 028-0613-00-xxx

3

041-0010-01

4

053-1368-00

5

Left: 030-1494-51
Right: 030-1494-50

6

040-0010-154

7

042-0059-08

8

053-1366-00

16

002-1427-00

11

029-3530-00-216

9

040-0010-12

045-0001-00

10

12

028-0606-00-xxx

13

053-0424-00

15

055-0005-00

14

053-1392-00-xxx
(Assorted lengths are included)

ATTENTION: Refer to *Color Selector* link for appropriate numbers to replace -xxx.

Item	Description	Qty.
1	Upholstery Set (includes items 2 thru 14) ...	1
2	• Seat/Back Upholstery	1
3	• Nut	4
4	• Handle	2
5	• Handle Bracket	2
6	• Screw	4
7	• Screw (10-24 x 5/8)	8
8	• Paper Roll Housing	1
9	• Screw	12
10	• Washer	12
11	• Locking Knob	6
12	• Footrest Pad [includes four glides (item #13)]	1
13	• • Footrest Glide	4
14	• Vinyl Drawer Insert	6
15	Dowel Rod	1
16	Tear Strap	1
17	Kit, Upholstery Packaging (002-1907-00) (not shown)	1

Always Specify Model & Serial Number

MA705800i

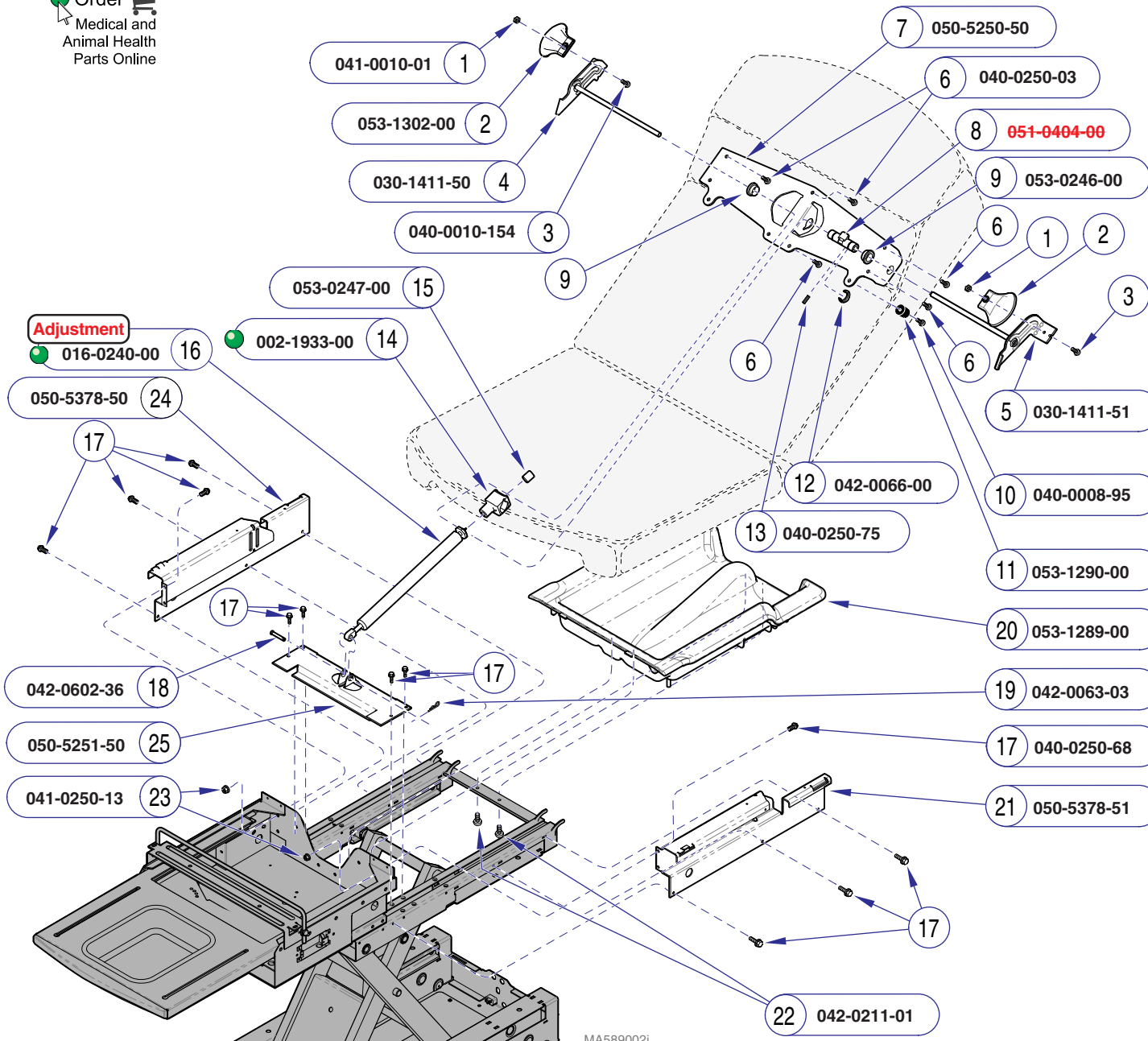
Models:
Serial Numbers:

622 (-007 & -008)
All

623 (-007 thru -011)
All

Upholstery - Midmark
(Ultra-Premium)

E-9.1



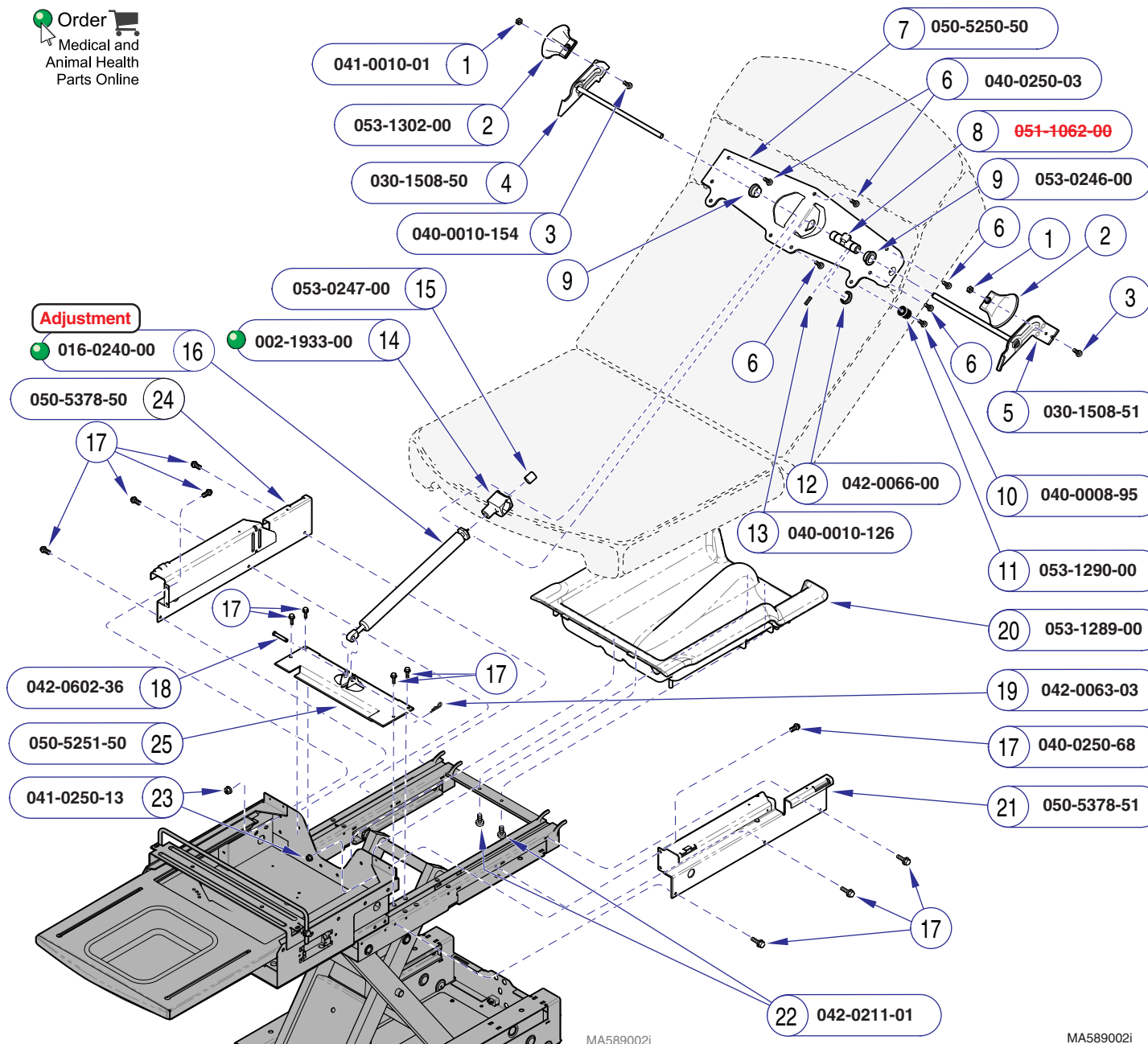
Item	Description	Qty.
1	Nut	2
2	Actuator Release Handle	2
3	Screw (10-32 x 7/16")	1
4	R.H. Back Release Weldment	1
5	L.H. Back Release Weldment	1
6	Screw (1/4-20 x 7/8")	4
7	Release Support Yoke Back	1
8	Cam	1
9	Back Pivot Bearing	2
10	Wood Screw	2
11	Stem Bumper	2
12	Crescent Ring	2
13	Set Screw	2
14	Hi-lo Actuator Cap Kit (incl. item 15)	1
15	• Plunger	1
16	Gas Cylinder	1
17	Screw (1/4-20 x Type F)	16
18	Clevis Pin	1
19	Rue Ring	1
20	Top Cover	1
21	L.H. Side Support	1
22	Screw (5mm x 20mm)	7
23	Lock Nut	4
24	R.H. Side Support	1
25	Release Support Yoke	1

Always Specify Model & Serial Number

Models:

Models:	222 (-001 thru -010)	
Serial Numbers:	RG1000 thru RG1894	RH1000 thru RH2131
	RJ1000 thru RJ1419	RK1000 thru RK3589
	RL1000 thru RL1068	RM1000 thru RM1028

622 (-001 & -002)
SJ1000 thru SJ1008
SK1000 thru SK1029



Item	Description	Qty.
1	Nut	2
2	Actuator Release Handle	2
3	Screw (10-32 x 7/16")	1
4	R.H. Back Release Weldment	1
5	L.H. Back Release Weldment	1
6	Screw (1/4-20 x 7/8")	4
7	Release Support Yoke Back	1
8	Cam	1
9	Back Pivot Bearing	2
10	Wood Screw	2
11	Stem Bumper	2
12	Crescent Ring	2
13	Set Screw	2
14	Hi-lo Actuator Cap Kit (incl. item 15)	1
15	• Plunger	1
16	Gas Cylinder	1
17	Screw (1/4-20 x Type F)	16
18	Clevis Pin	1
19	Rue Ring	1
20	Top Cover	1
21	L.H. Side Support	1
22	Screw (5mm x 20mm)	3
23	Lock Nut	4
24	R.H. Side Support	1
25	Release Support Yoke	1

Always Specify Model & Serial Number

Models:

Serial Numbers:

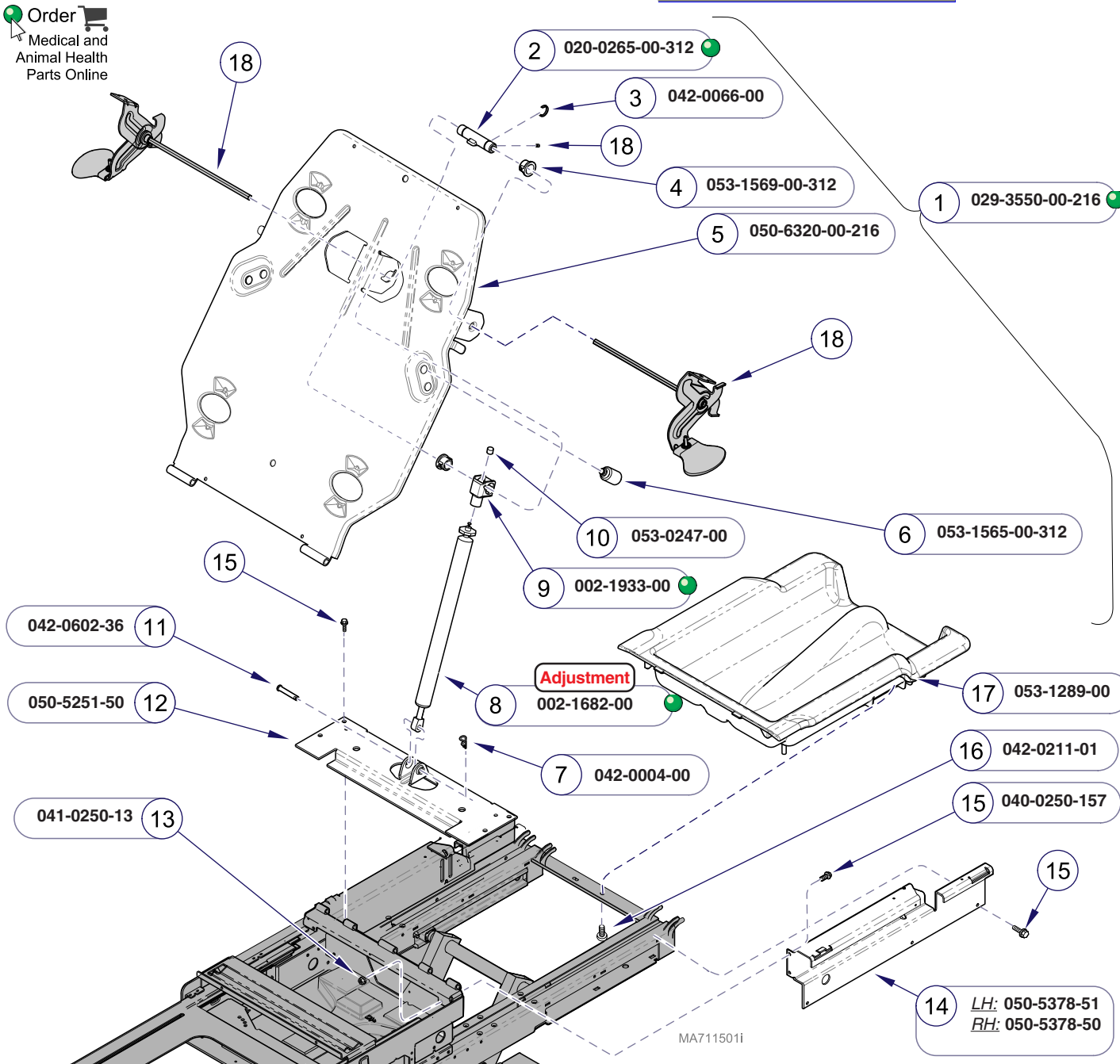
222 (-001 thru -014)

RG1895 thru present
RJ1420 thru present
RL1069 thru present
RH2132 thru present

RK3590 thru present
RM1029 thru present
V2200 thru V216996

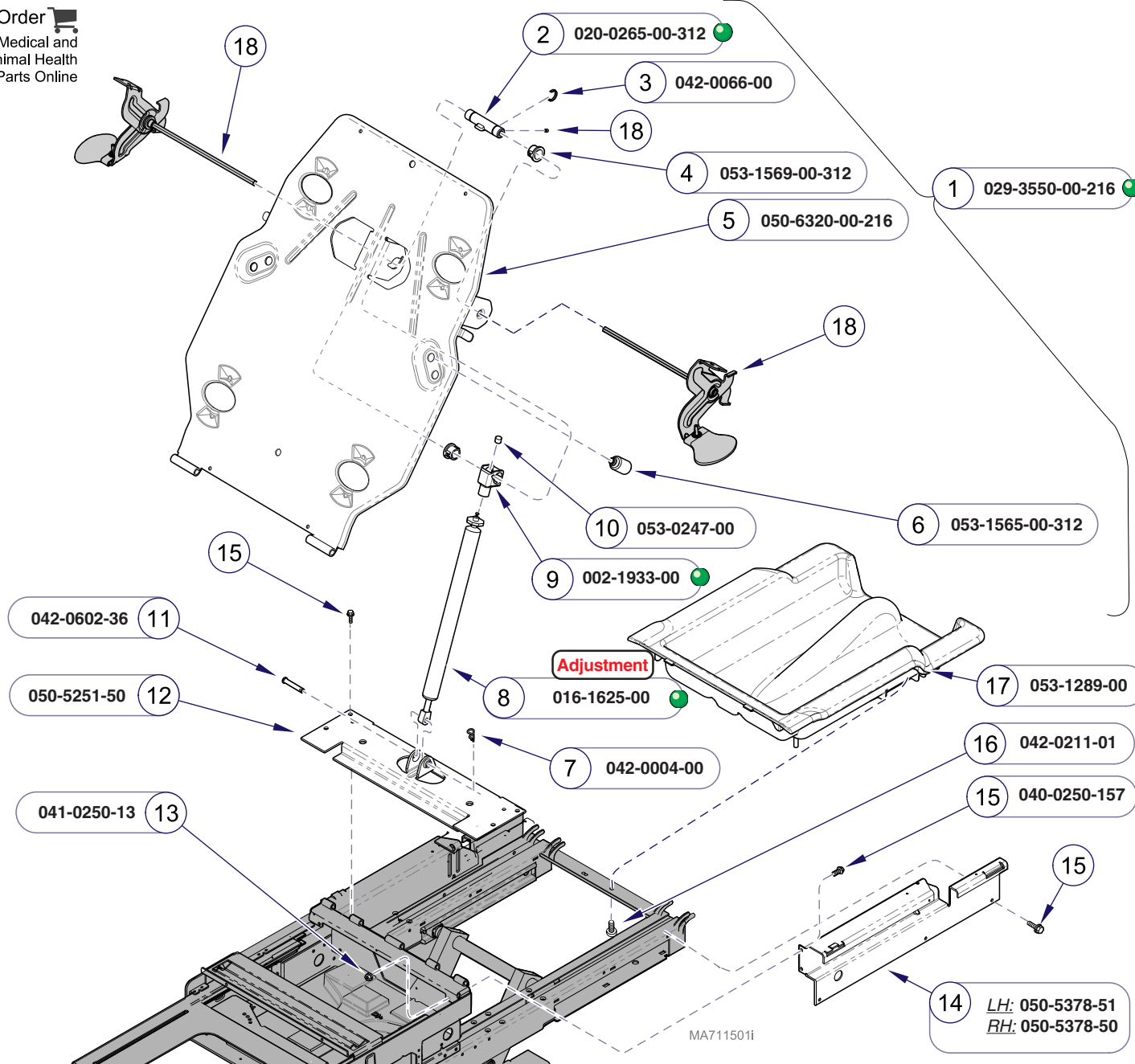
622 (-001 thru -006)

SJ1009 thru present
SK1030 thru present
V2200 thru V216996



Item	Description	Qty.
1	Manual Back Assembly (incl. items 2 thru 12)	1
2	• Cam	1
3	• Crescent Ring	2
4	• Back Pivot Bearing	2
5	• Back Mounting Frame	1
6	• Back Rest Bumper	2
7	• Hitch Pin	1
8	• Gas Spring	1
9	• Hi-lo Actuator Cap Kit (incl. item 10)	1
10	• Plunger	1
11	• Clevis Pin	1
12	• Release Support Yoke	1
13	Lock Nut	4
14	Side Support (LH shown)	2
15	Screw (1/4-20 x Type F)	16
16	Screw (5mm x 20mm)	3
17	Top Cover	1
18	Refer to: "Backrest Handles"	Ref

Always Specify Model & Serial Number



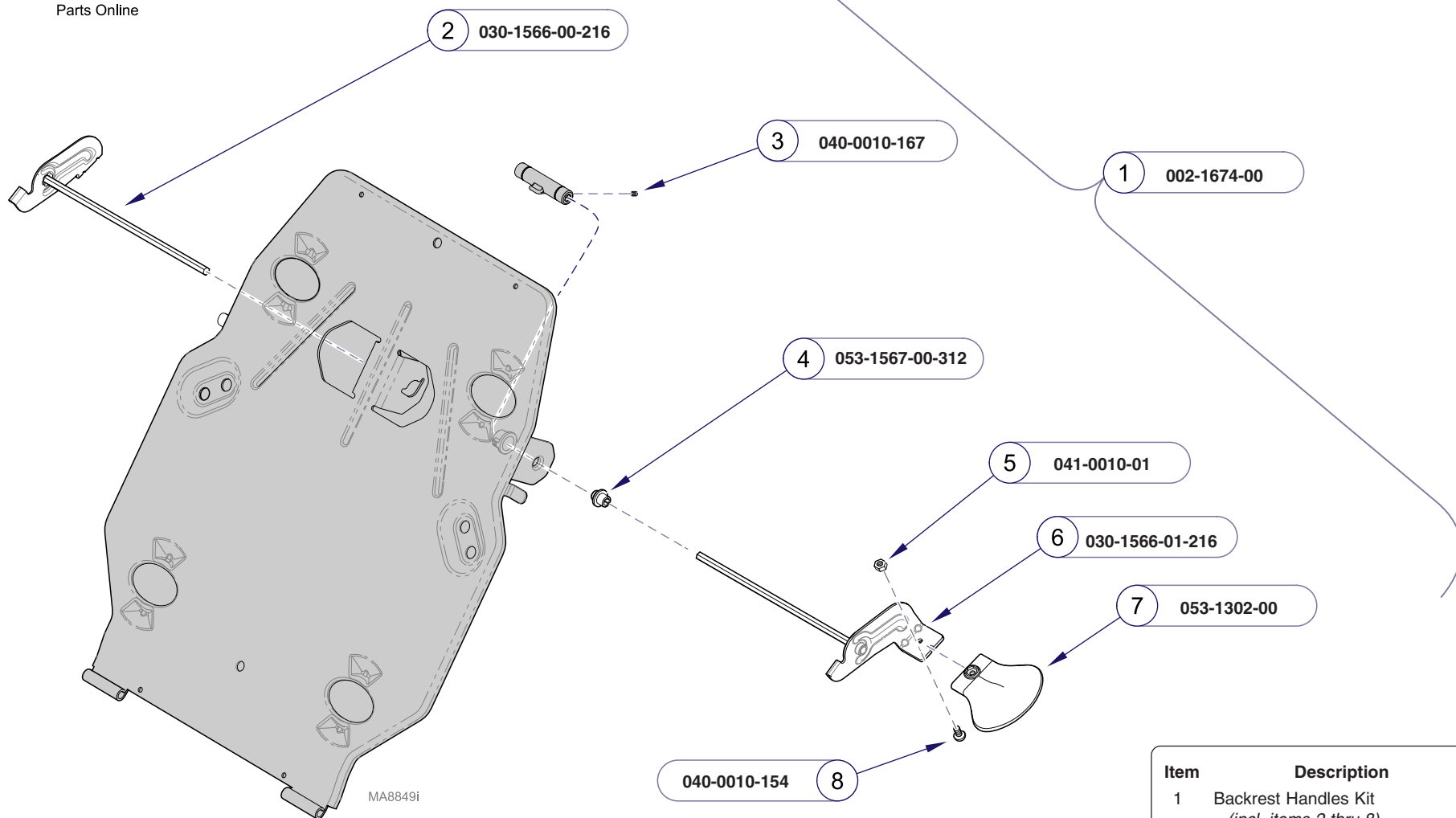
Item	Description	Qty.
1	Manual Back Assembly (incl. items 2 thru 12)	1
2	• Cam	1
3	• Crescent Ring	2
4	• Back Pivot Bearing	2
5	• Back Mounting Frame	1
6	• Back Rest Bumper	2
7	• Hitch Pin	1
8	• Gas Spring	1
9	• Hi-lo Actuator Cap Kit (incl. item 10)	1
10	• • Plunger	1
11	• Clevis Pin	1
12	• Release Support Yoke	1
13	Lock Nut	4
14	Side Support (LH shown)	2
15	Screw (1/4-20 x Type F)	16
16	Screw (5mm x 20mm)	3
17	Top Cover	1
18	Refer to: "Backrest Handles"	Ref

Always Specify Model & Serial Number

Models: 222 (-015 thru -017) 622 (-007 & -008)
Serial Numbers: V1401741 thru present V1401741 thru present

Manual Back
Components

E-10.3



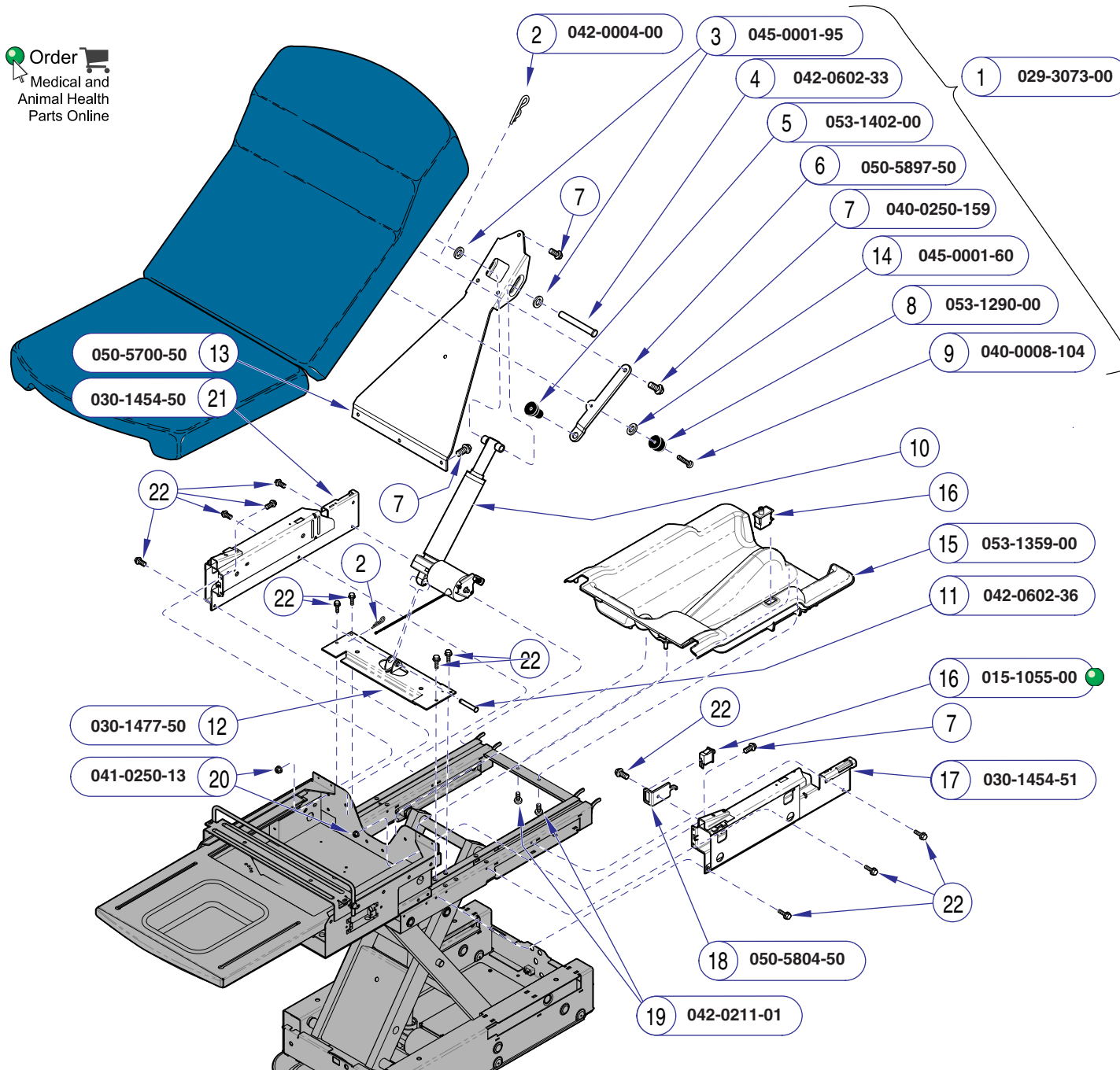
Item	Description	Qty.
1	Backrest Handles Kit (incl. items 2 thru 8)	1
2	• R.H. Back Release Weldment	1
3	• Set Screw	2
4	• Release Rod Bushing	2
5	• Nut (#10-32)	2
6	• L.H. Back Release Weldment	1
7	• Actuator Release Handle	2
8	• Screw (#10-32 X 7/16 flat head phillips) ...	2

Always Specify Model & Serial Number

Backrest Handles

Models: 222 (-015 thru -017)
Serial Numbers: V216996 thru present

622 (-007 & -008)
V216996 thru present



Refer To:
Back Actuator E-13*
* multiple pages due to model / serial # break

Go To Page:

Item	Description	Qty.
1	Power Back Assembly	1
	(includes items 2 thru 14)	
2	• Hitch Pin Clip	2
3	• Washer	2
4	• Clevis Pin	1
5	• Stem Bumper	1
6	• Limit Bumper Bracket (leftside only)	1
7	• Screw (1/4-20 x .87")	6
8	• Recess Bumper	3
9	• Screw (#8 x 1")	3
10	• Refer to: "Back Actuator"	Ref
11	• Clevis Pin	1
12	• Back Actuator Support	1
13	• Power Back Pivot Mount	1
14	• Spacer Washer (right side only)	1
15	Top Cover	1
16	Limit Switch	2
17	L.H. Side Support	1
18	Switch Bracket	1
19	Screw (M5 x 20mm)	3
20	Flange Nut (1/4-20)	4
21	R.H. Side Support	1
22	Screw (1/4-20 x .5")	19

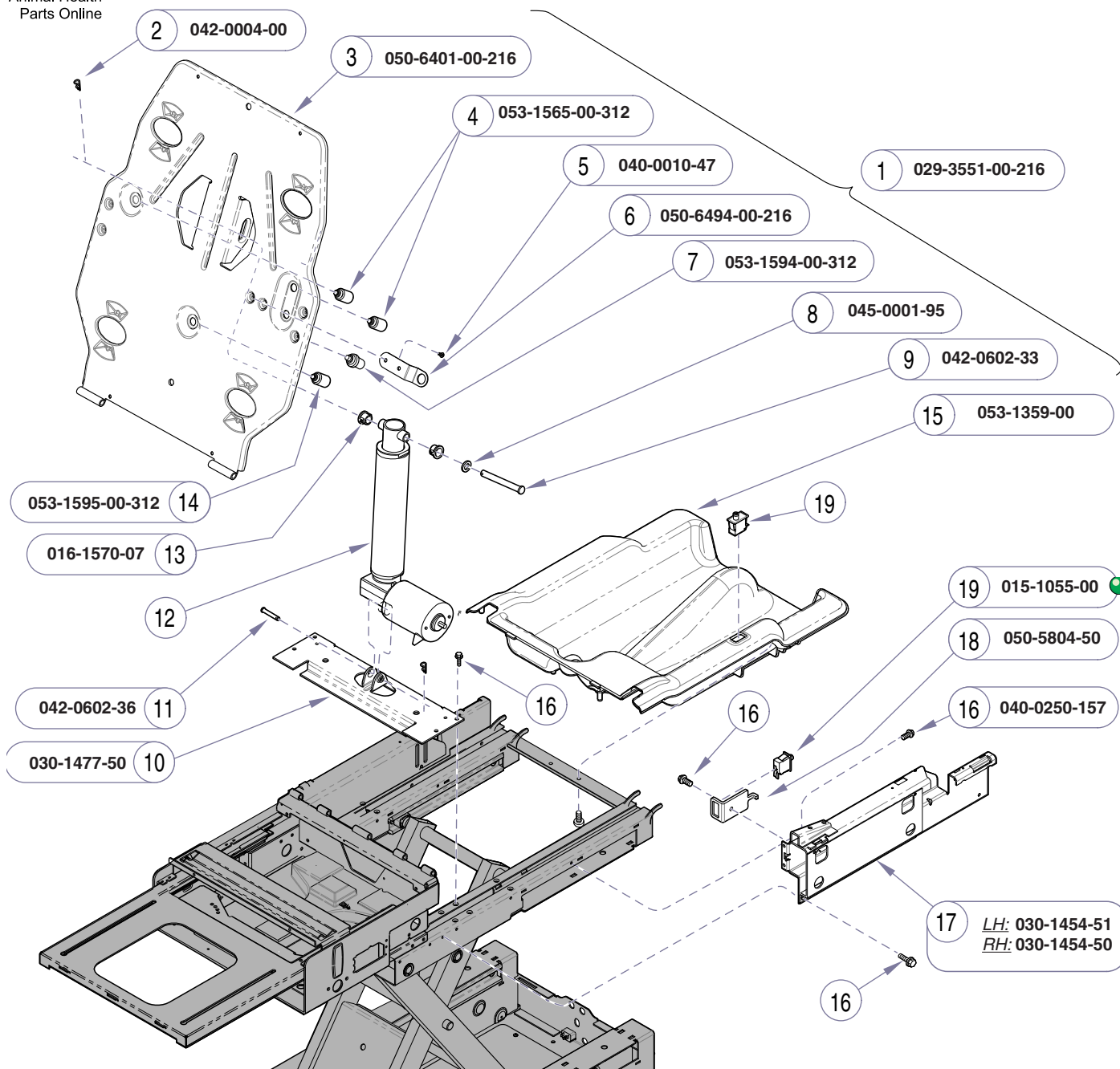
Always Specify Model & Serial Number

MA637000i

Models: 223 (-001 thru -014) 623 (-001 thru -006)
Serial Numbers: All All

Power Back
Components

E-12



MA712900i

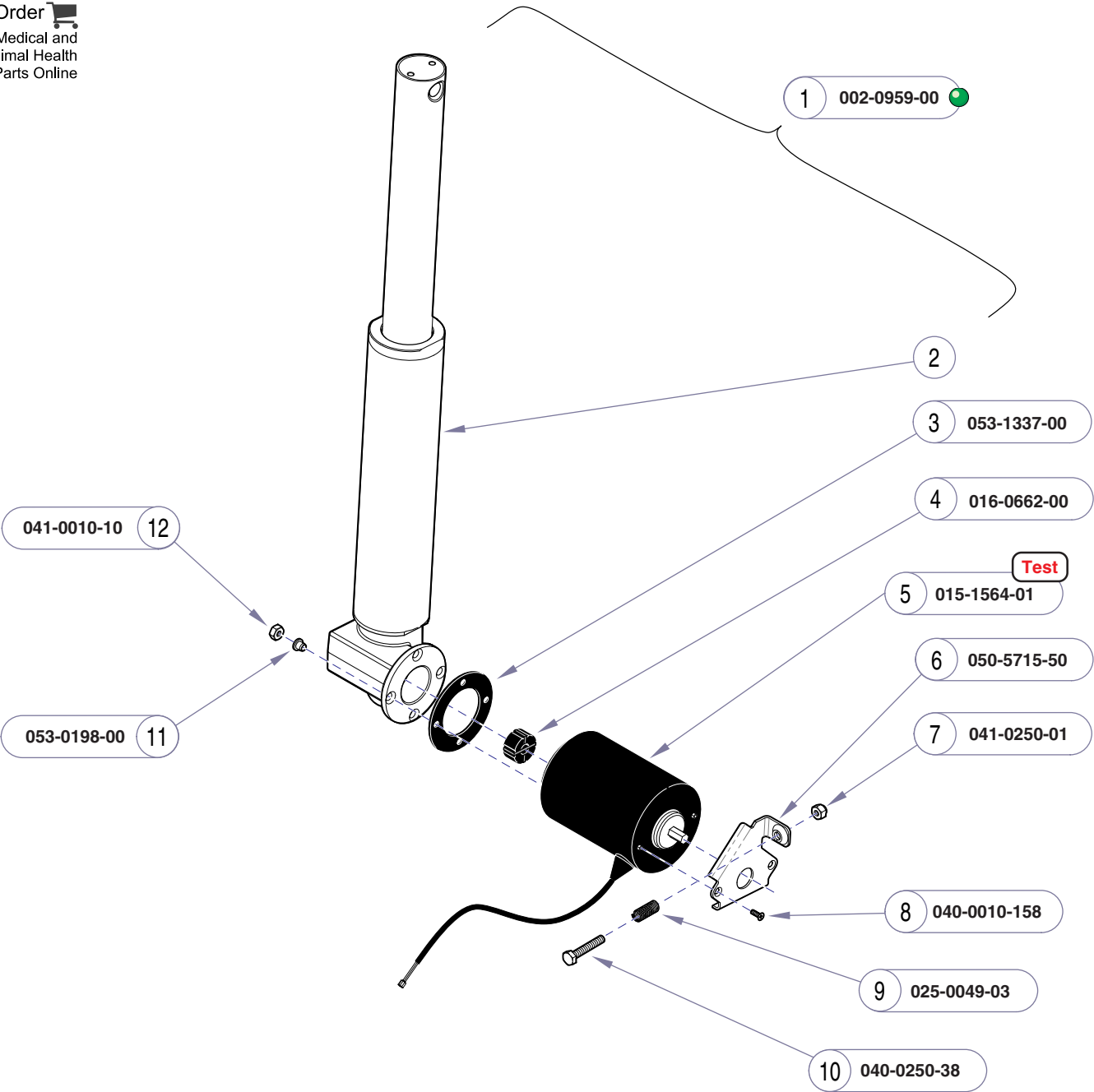
Item	Description	Qty.
1	Power Back Assembly (includes items 2 thru 13)	1
2	• Hitch Pin Clip	1
3	• Back Mounting Frame	1
4	• Back Rest Bumper	2
5	• Screw (#10-24 x 3/8')	2
6	• Limit Bumper Bracket (leftside only)	1
7	• Limit Switch Bumper	1
8	• Washer (1/2')	2
9	• Clevis Pin	1
10	• Back Actuator Support	1
11	• Clevis Pin	1
12	• Refer to: "Back Actuator"	Ref
13	• DP4 Bearing	2
14	• Actuator Stop Bumper	1
15	Top Cover	1
16	Screw (1/4"-20 x .5")	19
17	Side Support (LH shown)	2
18	Limit Switch Bracket	1
19	Limit Switch	2

Always Specify Model & Serial Number

Refer To:

Go To Page:

Actuator Motor **Test** B-12



Item	Description	Qty.
1	Back Actuator Assembly Kit (includes items 1 thru 12)	1
2	• Actuator (not available seperately)	Ref.
3	• Motor Insulator	1
4	• Motor Coupler	1
5	• Actuator Motor	1
6	• Motor Bracket	1
7	• Nut (1/4"-20)	1
8	• Screw (#10 x 32 x .25")	2
9	• Compression Spring	1
10	• Screw (1/4" -20 x .5")	1
11	• Shoulder Washer	2
12	• Nut (#10-32)	2

Always Specify Model & Serial Number

MA624201i

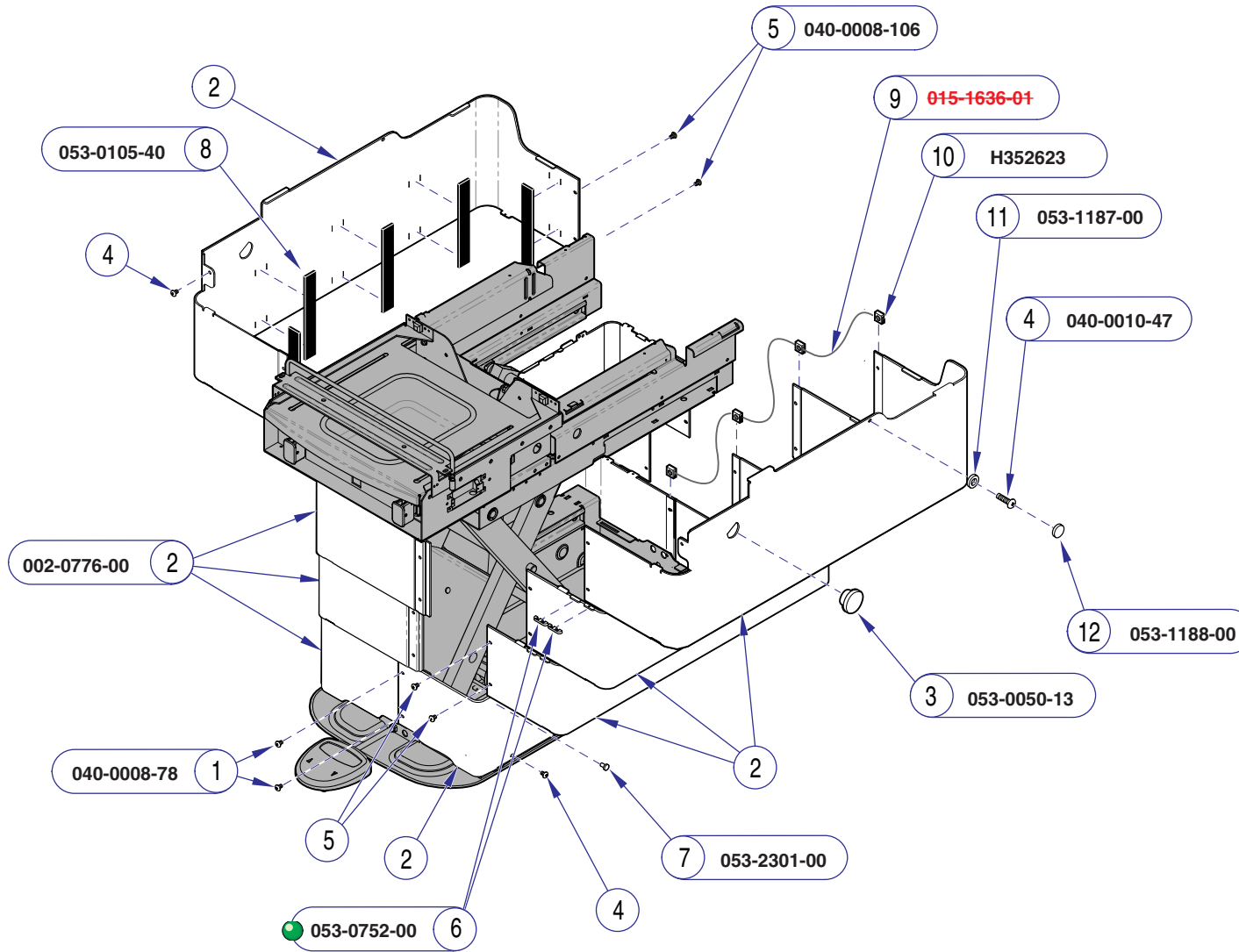
Models:

Serial Numbers:

223 (all)
All

623 (all)
All

Back Actuator

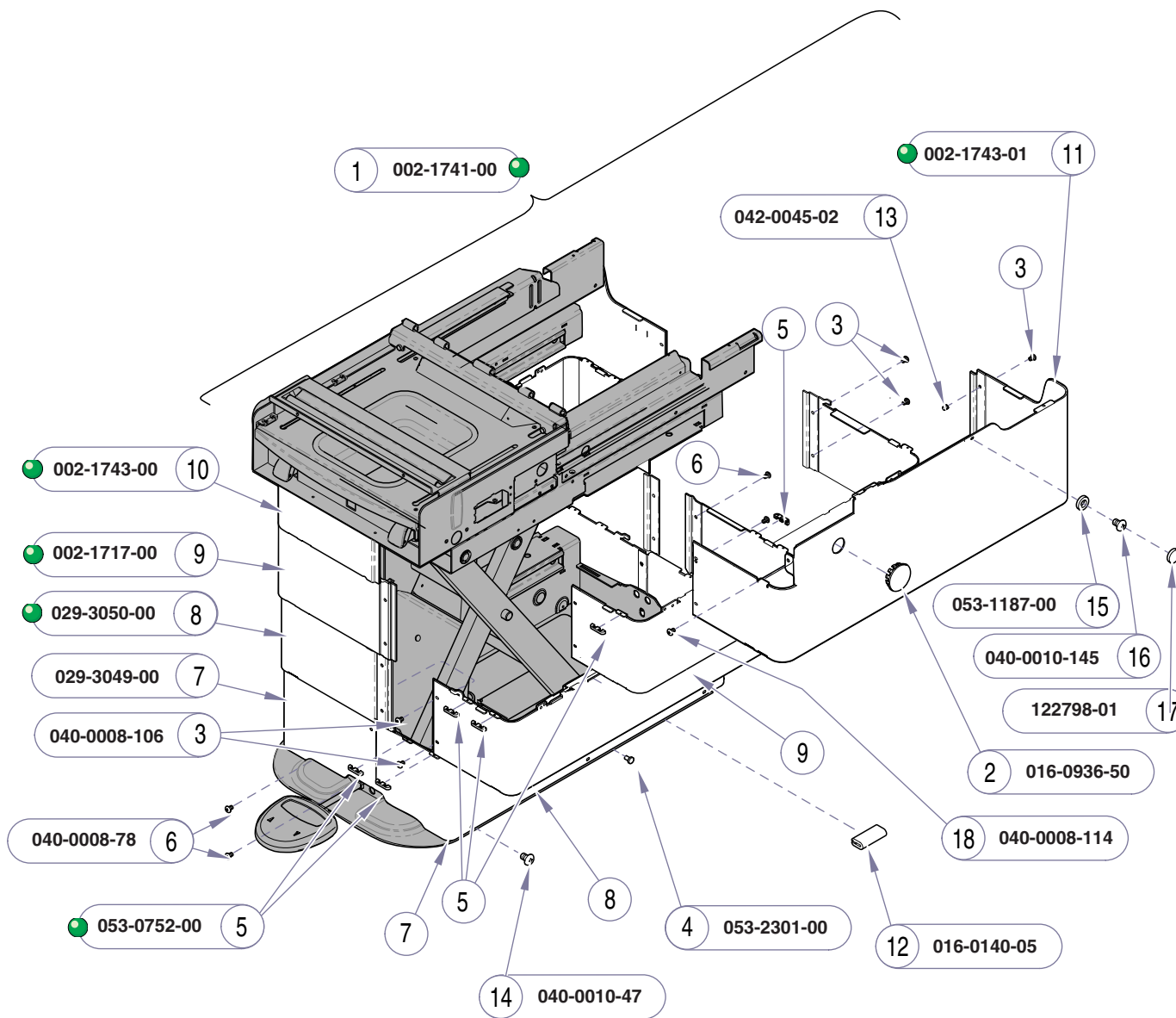


NOTE:
Shroud assemblies are only available as a complete set for the serial numbers listed on this page.

Item	Description	Qty.
1	Screw	12
2	Shroud Assembly(See note above)	1
3	Hole Plug	2
4	Screw (10-24 x 3/8")	10
5	Screw (10-24 x 3/8")	12
6	Snap-on Guide	36
7	Stem Bumper	32
8	Velcro Loop (1" x 7")	6
9	Braided Ground Wire	1
10	Tinnerman Clip	3
11	Screw Cover Base	2
12	Screw Cover	2

Always Specify Model & Serial Number

MA58806i



Item	Description	Qty.
1	Table Shroud Assembly Set 1 (includes items 2 through 14)	1
2	• Hole Plug 2	2
3	• Screw (#8-32 x .25") 12	12
4	• Stem Bumper 14	14
5	• Snap-on Guide 32	32
6	• Screw (#8 -32 x .25") 4	4
7	• Inner Shroud Assembly 2 (includes items 4, 5, & 13)	2
8	• Mid Inner Shroud Assembly 2 (includes items 4, 5, 12, & 13)	2
9	• Mid Outer Shroud Assembly 2 (includes items 4, 5, & 13)	2
10	• R.H. Outer Shroud Assembly 1 (includes items 5, 13, & 18)	1
11	• L.H. Outer Shroud Assembly 1 (includes items 5, 13, & 18)	1
12	• Trim Lock 4	4
13	• Nutsert 18	18
14	• Screw (10-24 x 3/8") 6	6
15	Screw Cover Base 2	2
16	Screw (10-24 x 3/8") 2	2
17	Screw Cover 2	2
18	Screw (#8-32 x 3/8") 2	2

Always Specify Model & Serial Number

MA715700i

Models:
Serial Numbers:

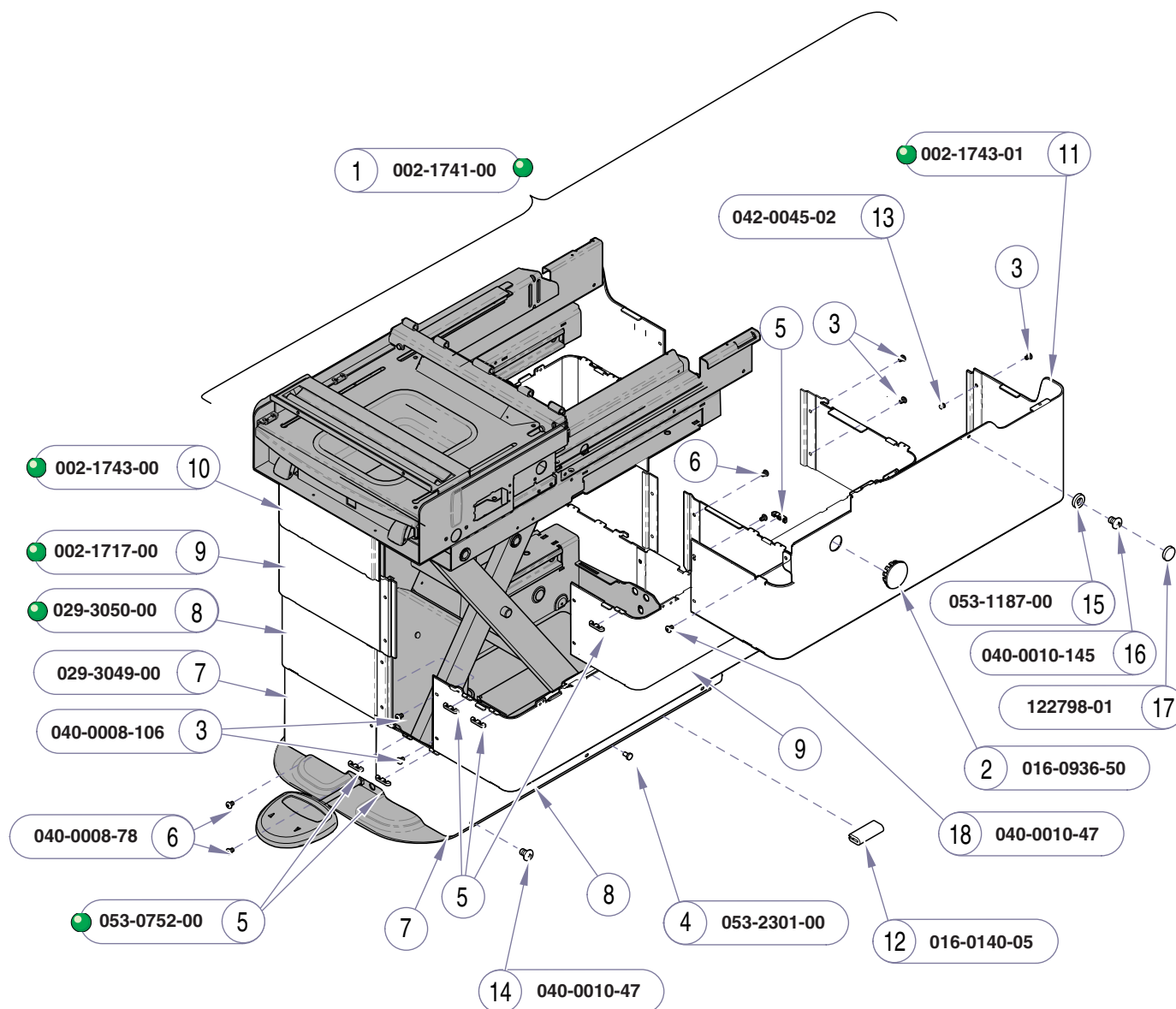
RG1531 thru present	222 (all)	RH1821 thru RH1830
RJ1313 thru present		RH1833 thru present
RK2335 thru present		RL1061 thru present
RM1016 thru present		V2200 thru V761999

223 (all)

SC-prefixes (all)	SG-prefixes (all)
SD-prefixes (all)	SH-prefixes (all)
SE-prefixes (all)	V2200 thru V761999
SF-prefixes (all)	

Table Shrouds
(Ritter models)

E-14.1



MA715700i

Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 through 14)	
2	• Hole Plug	2
3	• Screw (#8-32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12, & 13)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, & 13)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 5, 13, & 18)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 5, 13, & 18)	
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw (10-24 x 3/8")	6
15	Screw Cover Base	2
16	Screw (10-24 x 3/8")	2
17	Screw Cover	2
18	Screw (#10-24 x 3/8")	2

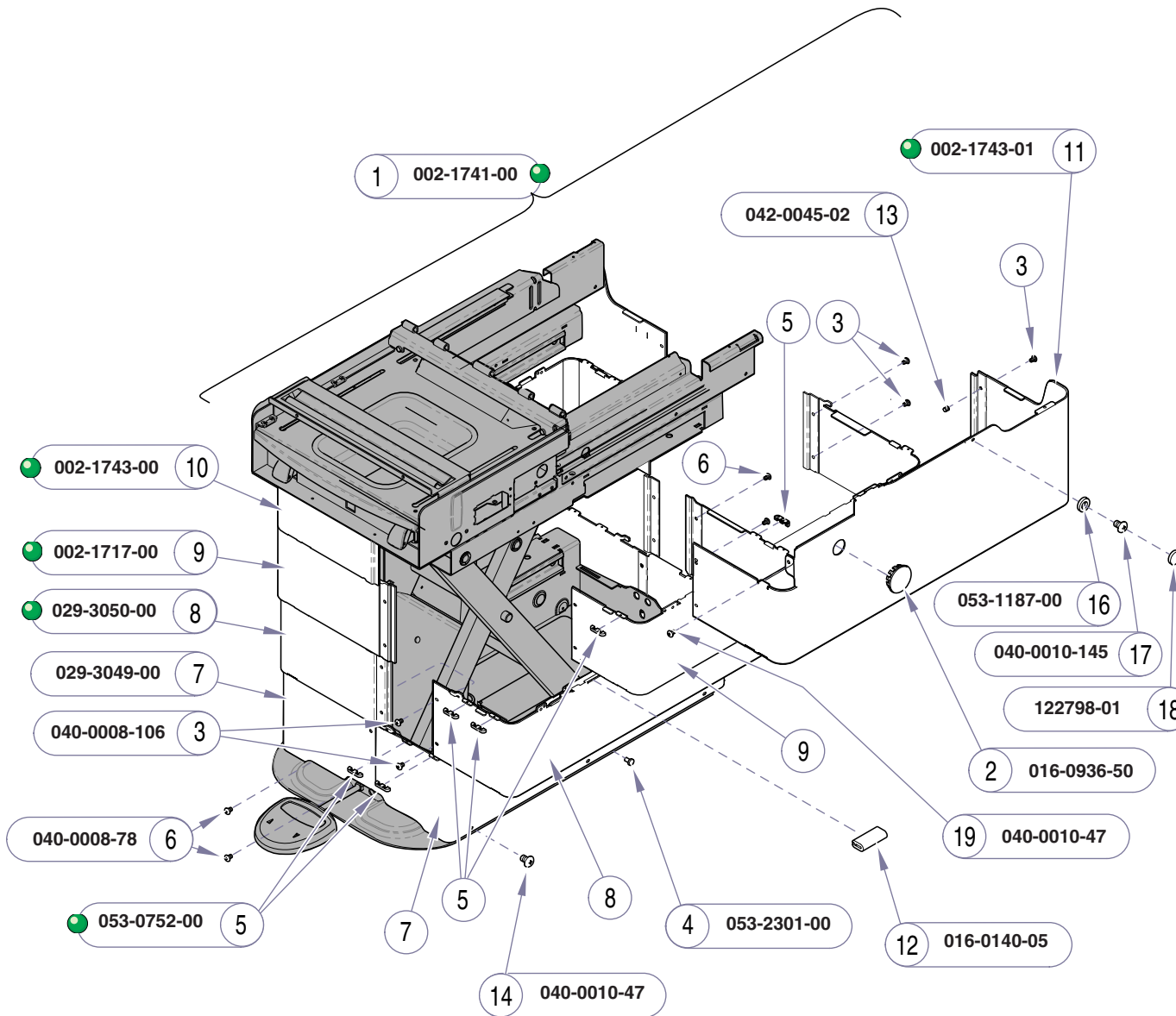
Always Specify Model & Serial Number

Table Shrouds (Ritter models)

E-14.2

Models: **222 (all)**
Serial Numbers: V762688 thru V1077078

223 (all)
V762688 thru V1077078



MA715701i

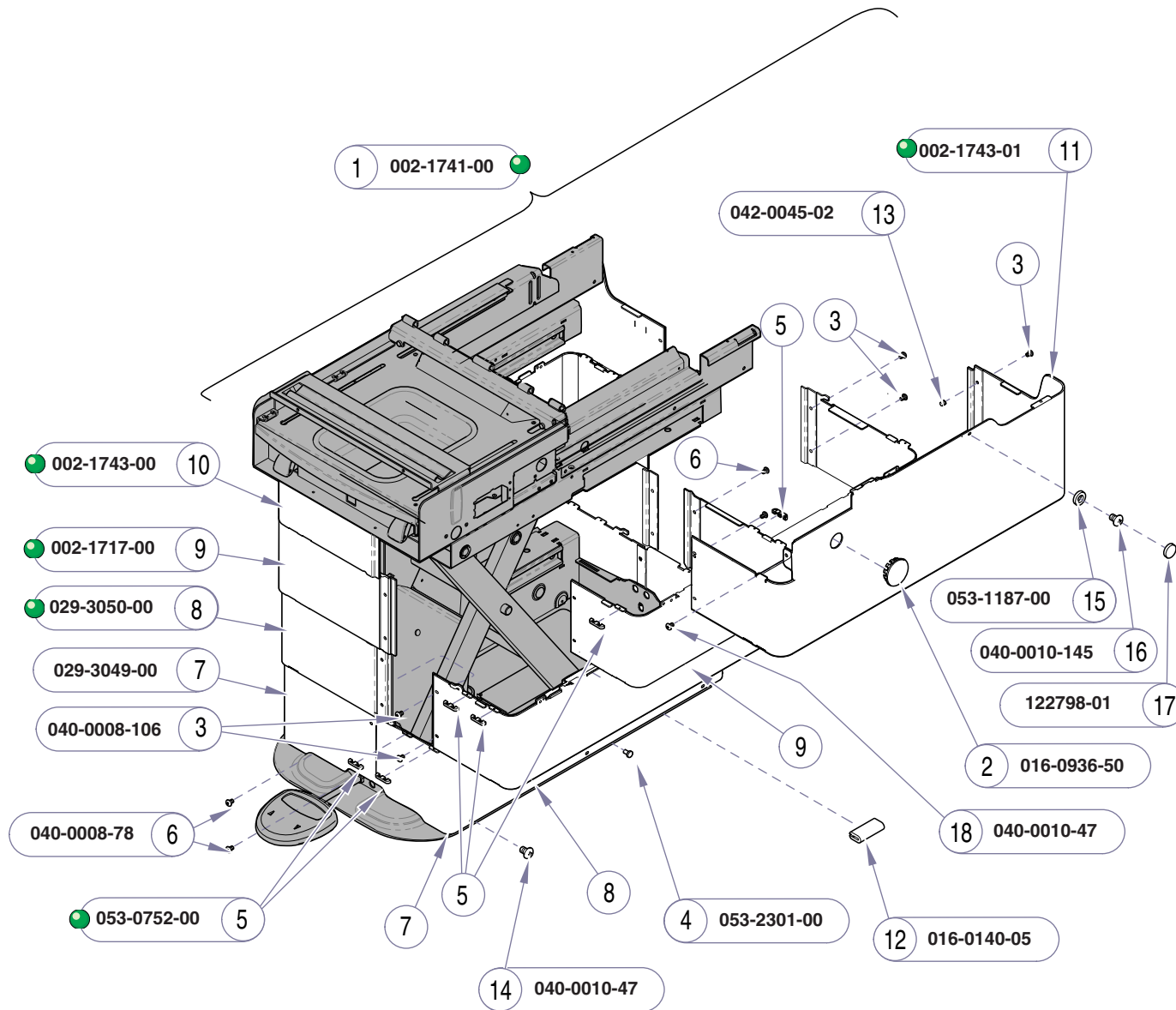
Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 through 15)	
2	• Hole Plug	2
3	• Screw (#8-32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12, 13, & 15)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, 13, & 15)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 5, 13, & 18)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 5, 13, & 18)	
12	• Trim Lock.....	4
13	• Nutsert	18
14	• Screw (10-24 x 3/8").....	6
15	• Shroud Isolator	4
16	Screw Cover Base	2
17	Screw (10-24 x 3/8")	2
18	Screw Cover	2
19	Screw (#10-24 x 3/8")	2

Always Specify Model & Serial Number

Models: **222 (all)** **223 (all)**
Serial Numbers: V1077079 thru V1089389 V1077079 thru V1089389

Table Shrouds
(Ritter models)

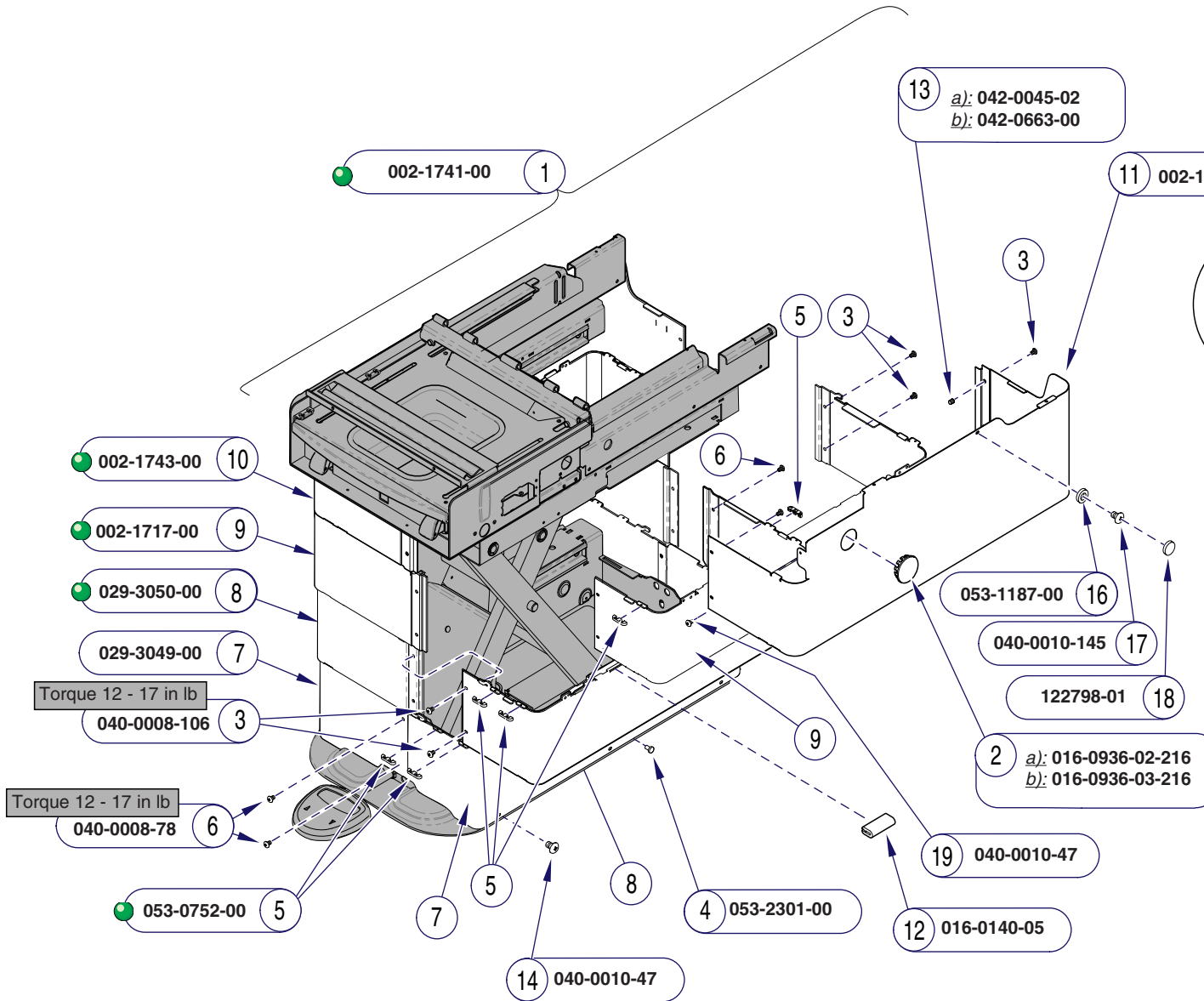
E-14.3



MA715702

Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 through 14)	
2	• Hole Plug	2
3	• Screw (#8-32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12, & 13)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, & 13)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 5, 13, & 18)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 5, 13, & 18)	
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw (10-24 x 3/8")	6
15	Screw Cover Base	2
16	Screw (10-24 x 3/8")	2
17	Screw Cover	2
18	Screw (#10-24 x 3/8")	2

Always Specify Model & Serial Number



Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 through 15)	
2	• a) Hole Plug w/o hole	2
	• b) Hole Plug w/ hole	2
3	• Screw (#8-32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8-32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12, 13, & 15)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, 13, & 15)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 2a, 5, 13, & 18)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 2a, 5, 13, & 18)	
12	• Trim Lock	4
13	• a) Nutsert (Round)	18
	• b) Nutsert (Hex)	18
14	• Screw (10-24 x 3/8")	6
15	• Shroud Isolator	8
16	Screw Cover Base	2
17	Screw (10-24 x 3/8")	2
18	Screw Cover	2
19	Screw (#10-24 x 3/8")	2

Always Specify Model & Serial Number

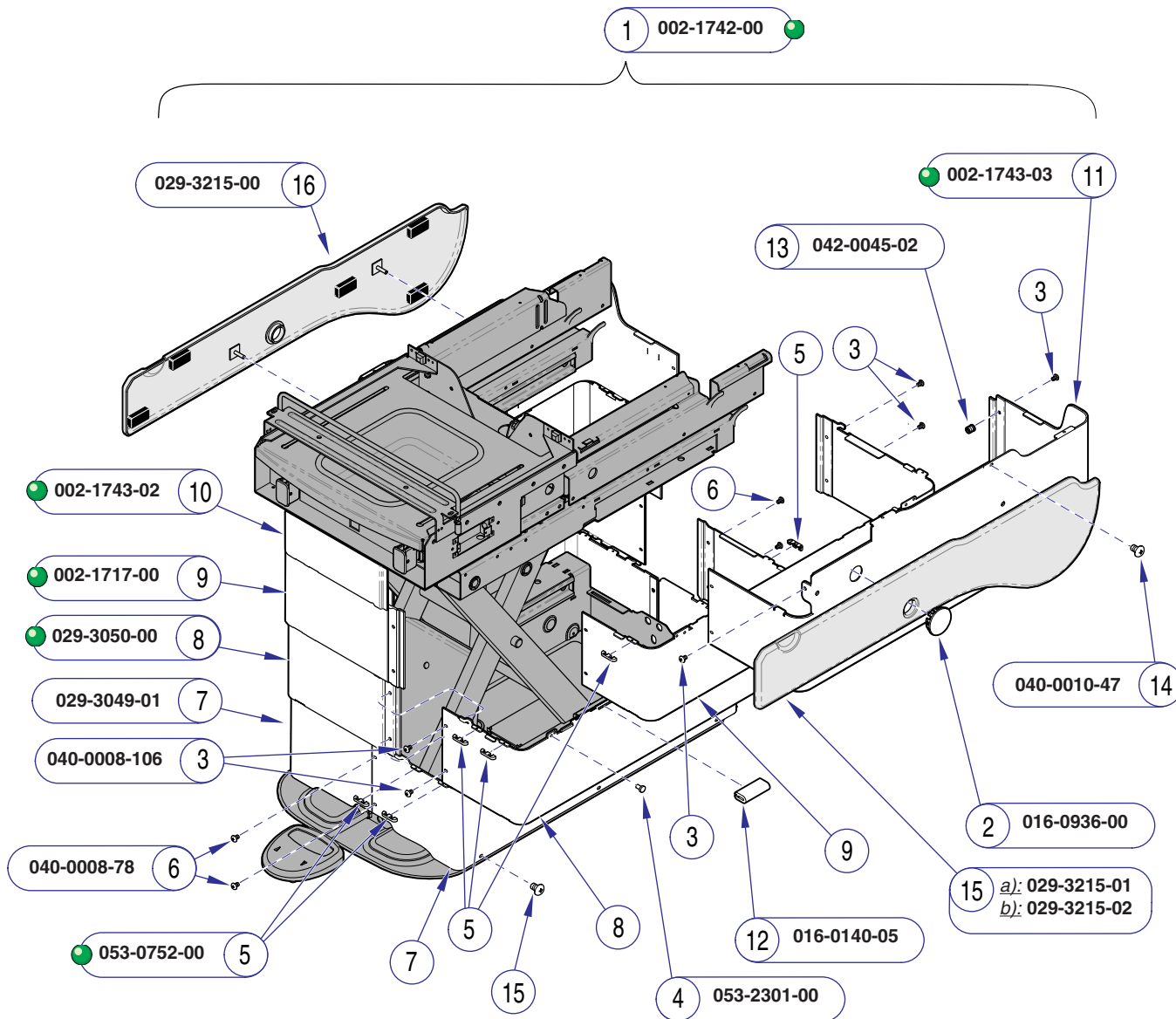
Models:
Serial Numbers:

222 (all)
V1531183 - present

223 (all)
V1531183 - present

Table Shrouds
(Ritter models)

E-14.5

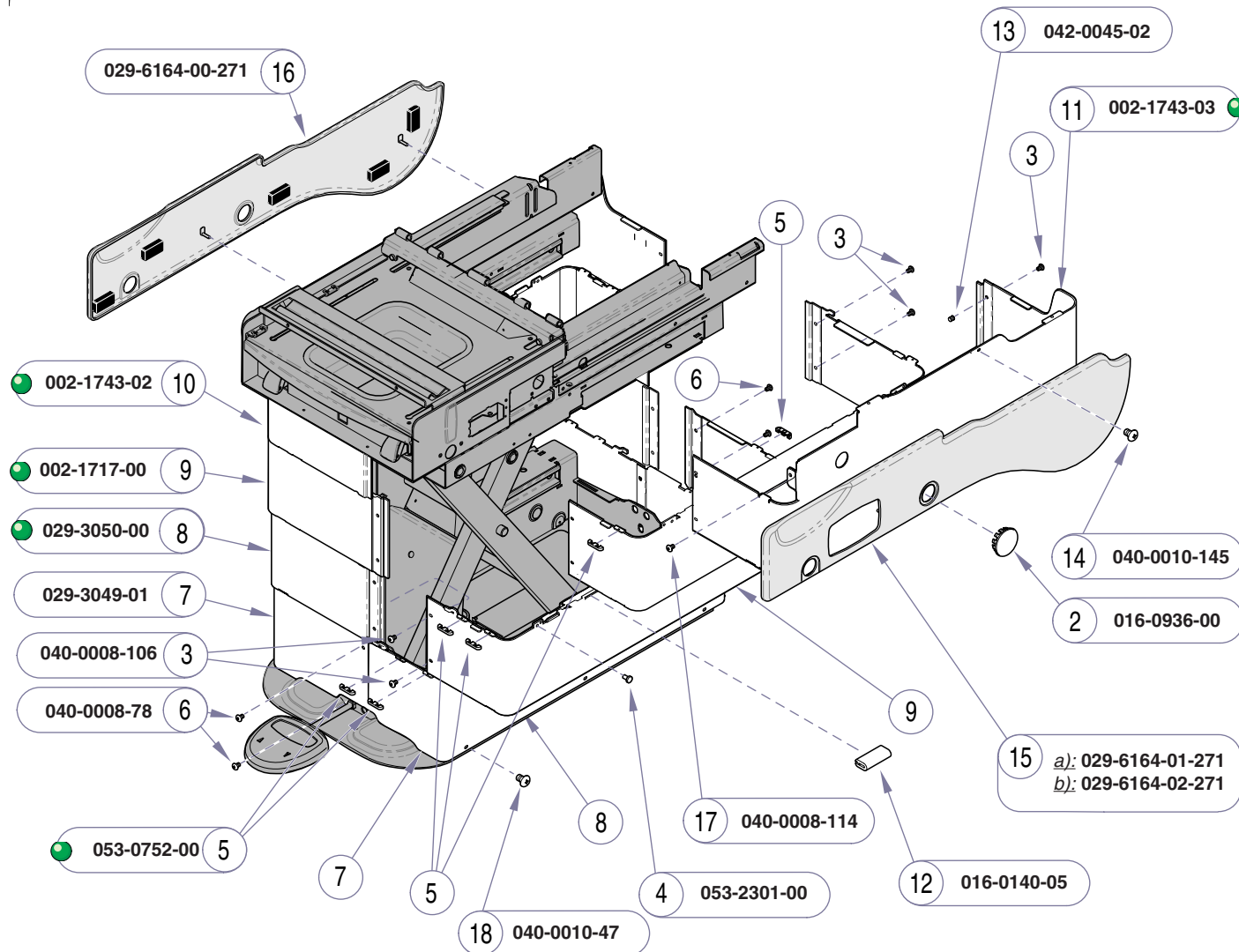


Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 thru 13)	
2	• Hole Plug	2
3	• Screw (#8 -32 x .25")	12
4	• Stem Bumper	32
5	• Snap-on Guide	36
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12 & 13)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, 13, & 14)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 3, & 13)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 3, & 13)	
12	• Trim Lock	4
13	• Nutsert	18
14	Screw (10-24 x 1/2")	10
15	LH Cladding Assembly:	
	a) w/ receptacle cutout	1
	b) w/o receptacle cutout	1
16	R.H. Cladding Assembly	1

Always Specify Model & Serial Number

MA637804i

1 002-1742-00



Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 thru 14)	
2	• Hole Plug	4
3	• Screw (#8 -32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12 & 13)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, & 13)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 17)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 17)	
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw (10-24 x 1/2")	2
15	LH Cladding Assembly:	
	a) w/ receptacle cutout	1
	b) w/o receptacle cutout	1
16	R.H. Cladding Assembly	1
17	Screw (#8-32 x 3/8")	2
18	Screw	6

Always Specify Model & Serial Number

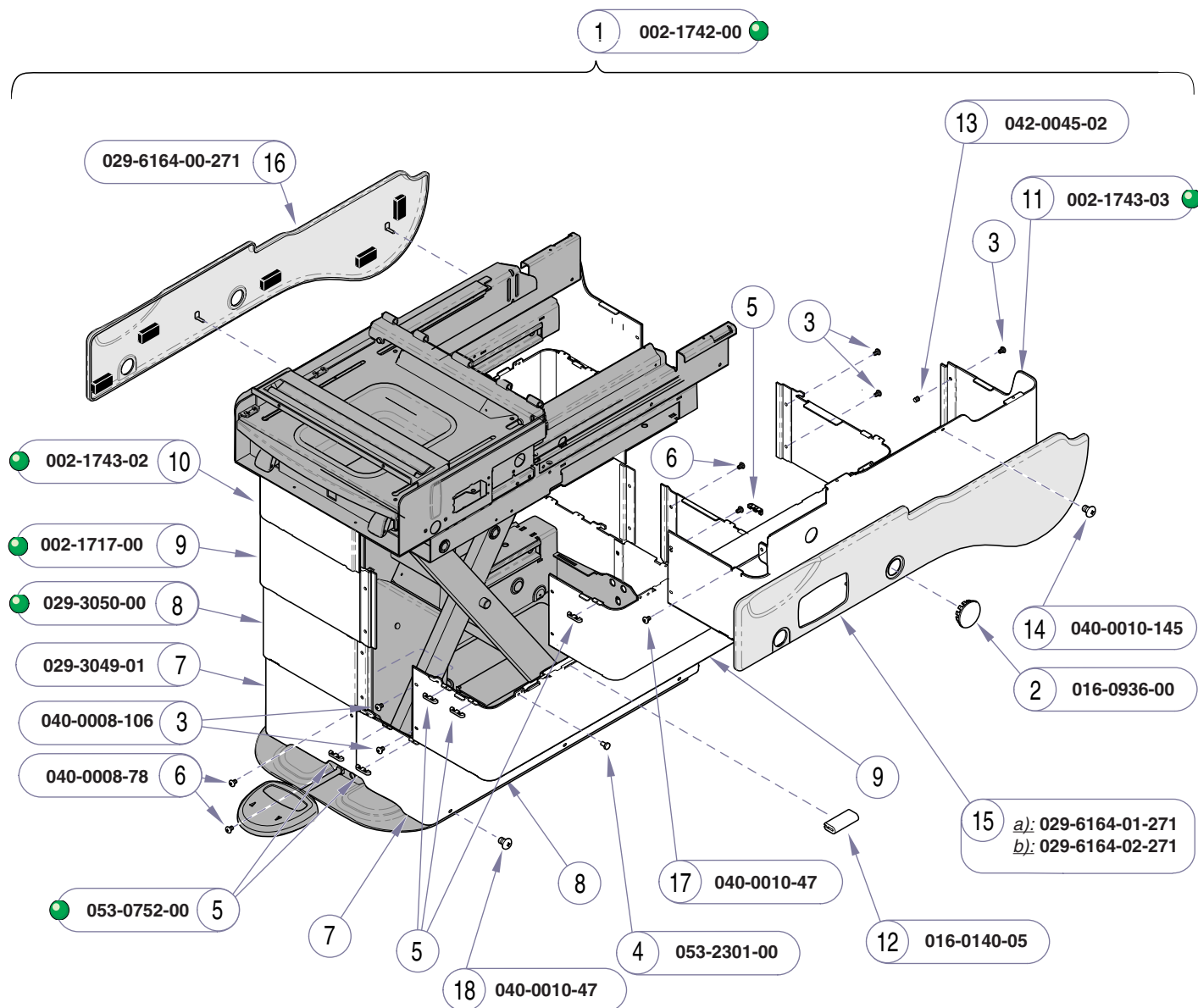
MA715800i

Models: 622 (-007 & -008)
Serial Numbers: V216996 thru V761999

623 (-007 thru -010)
 V216996 thru V761999

Table Shrouds
 (Midmark models)

E-15.1



MA715800i

Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 thru 14)	
2	• Hole Plug	4
3	• Screw (#8 -32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12 & 13)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, & 13)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 17)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 17)	
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw (10-24 x 1/2")	2
15	LH Cladding Assembly:	
	a) w/ receptacle cutout	1
	b) w/o receptacle cutout	1
16	R.H. Cladding Assembly	1
17	Screw (#10-24 x 3/8")	2
18	Screw	6

Always Specify Model & Serial Number

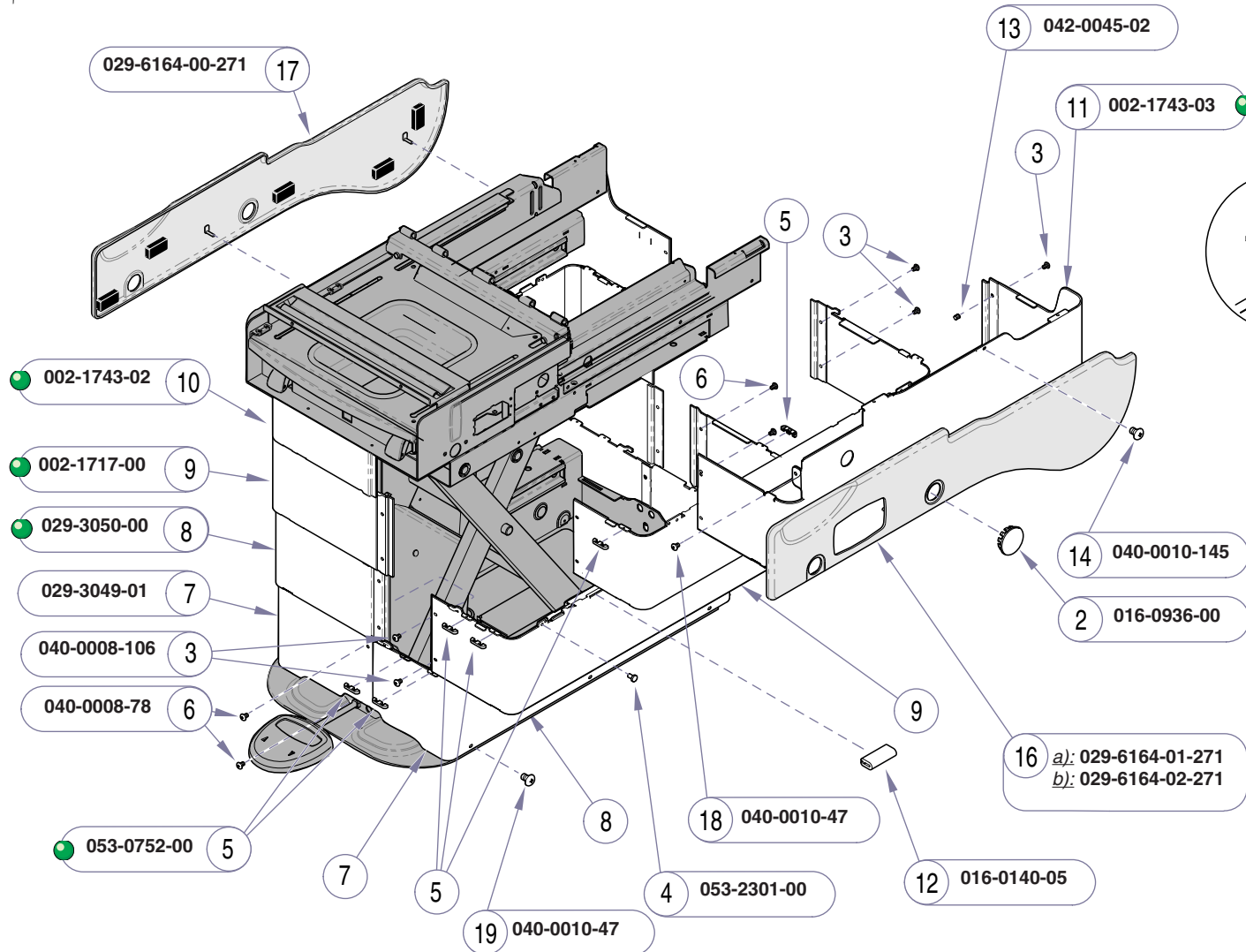
E-15.2

Table Shrouds (Midmark models)

Models: 622 (-007 & -008)
Serial Numbers: V762688 thru V1077078

623 (-007 thru -010)
V762688 thru V1077078

1 002-1742-00



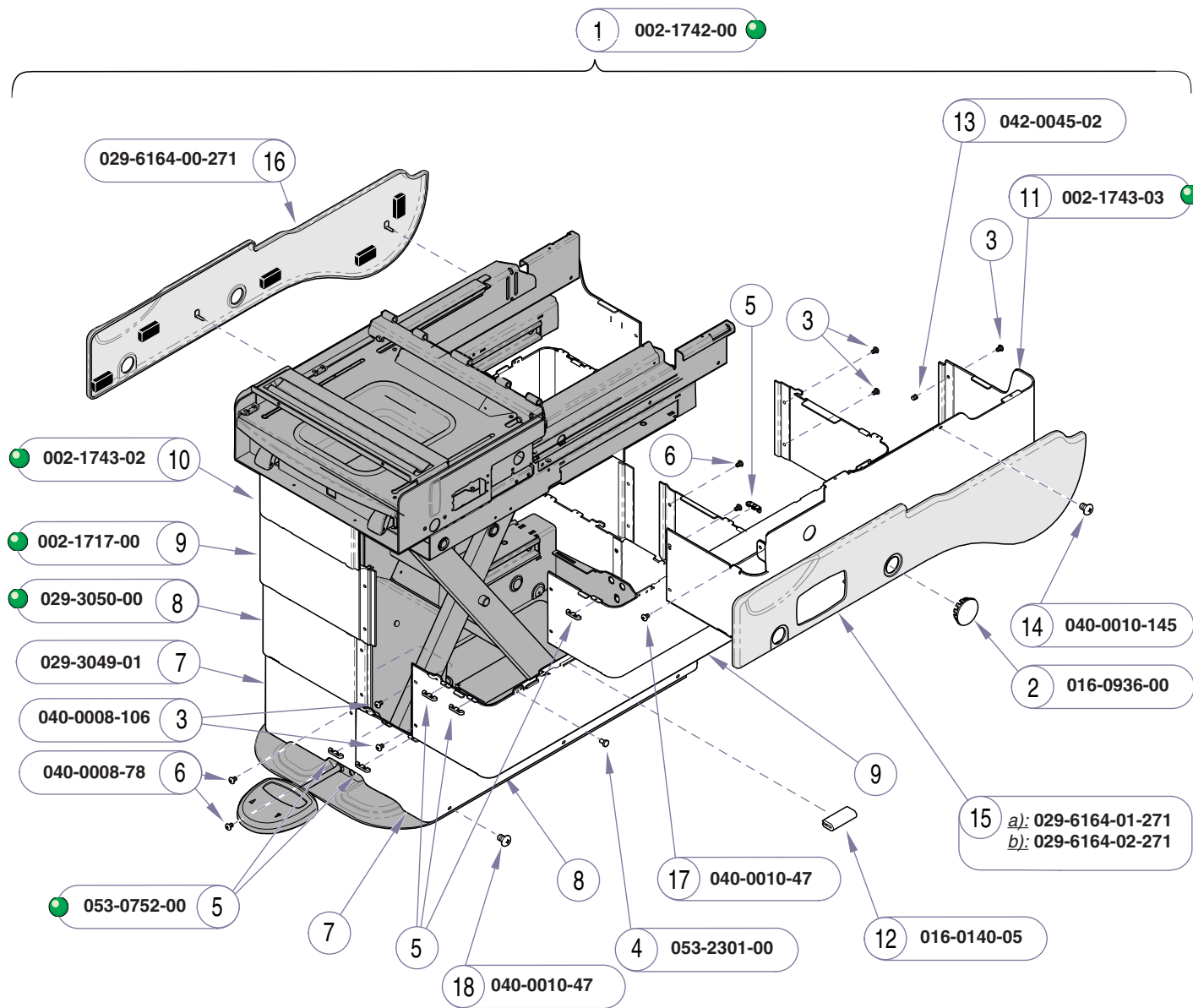
Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 thru 15)	
2	• Hole Plug	4
3	• Screw (#8 -32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12, 13, & 15)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, 13, & 15)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 18)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 18)	
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw (10-24 x 1/2")	2
15	• Shroud Isolator	4
16	LH Cladding Assembly:	
	a) w/ receptacle cutout	1
	b) w/o receptacle cutout	1
17	R.H. Cladding Assembly	1
18	Screw (#10-24 x 3/8")	2
19	Screw	6

Always Specify Model & Serial Number

Models: 622 (-007 & -008) 623 (-007 thru -010)
Serial Numbers: V1077079 thru V1089389 V1077079 thru V1089389

Table Shrouds
(Midmark models)

E-15.3



MA715802i

Item	Description	Qty.
1	Table Shroud Assembly Set	1
	(includes items 2 thru 14)	
2	• Hole Plug	4
3	• Screw (#8 -32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12 & 13)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, & 13)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 17)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 17)	
12	• Trim Lock	4
13	• Nutsert	18
14	• Screw (10-24 x 1/2")	2
15	LH Cladding Assembly:	
	a) w/ receptacle cutout	1
	b) w/o receptacle cutout	1
16	R.H. Cladding Assembly	1
17	Screw (#10-24 x 3/8")	2
18	Screw	6

Always Specify Model & Serial Number

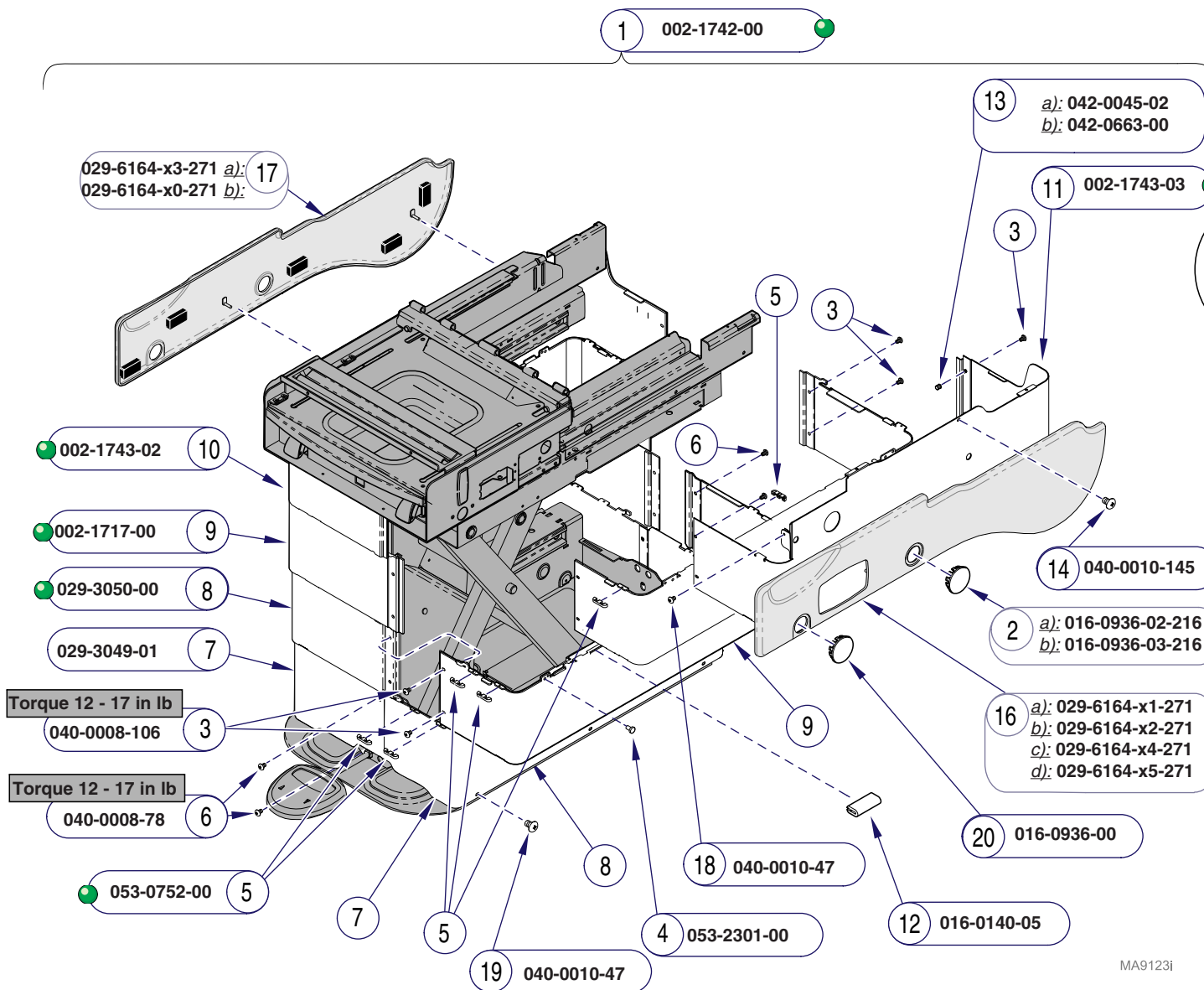
E-15.4

Table Shrouds (Midmark models)

Models:
Serial Numbers:

622 (-007 & -008)
V1089390 thru V1545232

623 (-007 thru -010)
V1089390 thru V1545232



MA9123i

Item	Description	Qty.
1	Table Shroud Assy Set (incl Items 2-15)	1
2	• a) Hole Plug w/o hole	2
	• b) Hole Plug w/ hole	2
3	• Screw (#8 -32 x .25")	12
4	• Stem Bumper	14
5	• Snap-on Guide	32
6	• Screw (#8 -32 x .25")	4
7	• Inner Shroud Assembly	2
	(includes items 4, 5, & 13)	
8	• Mid Inner Shroud Assembly	2
	(includes items 4, 5, 12, 13, & 15)	
9	• Mid Outer Shroud Assembly	2
	(includes items 4, 5, 13, & 15)	
10	• R.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 18)	
11	• L.H. Outer Shroud Assembly	1
	(includes items 3, 13, 14, & 18)	
12	• Trim Lock	4
13	• a) Nutsert (Round)	18
	• b) Nutsert (Hex)	18
14	• Screw (10-24 x 1/2")	2
15	• Shroud Isolator	8
16	LH Cladding Assembly:	
	a) w/ receptacle cutout	1
	b) w/o receptacle cutout (not shown)	1
	c) w/ recept cutout/cer mag (not shown) ...	1
	d) w/o recept cutout/cer mag (not shown) .	1
17	RH Cladding Assembly:	
	a) w/ ceramic magnet	1
	b) w/o ceramic magnet (not shown)	1
18	Screw (#10-24 x 3/8")	2
19	Screw	6
20	Hole Plug	2

Always Specify Model & Serial Number

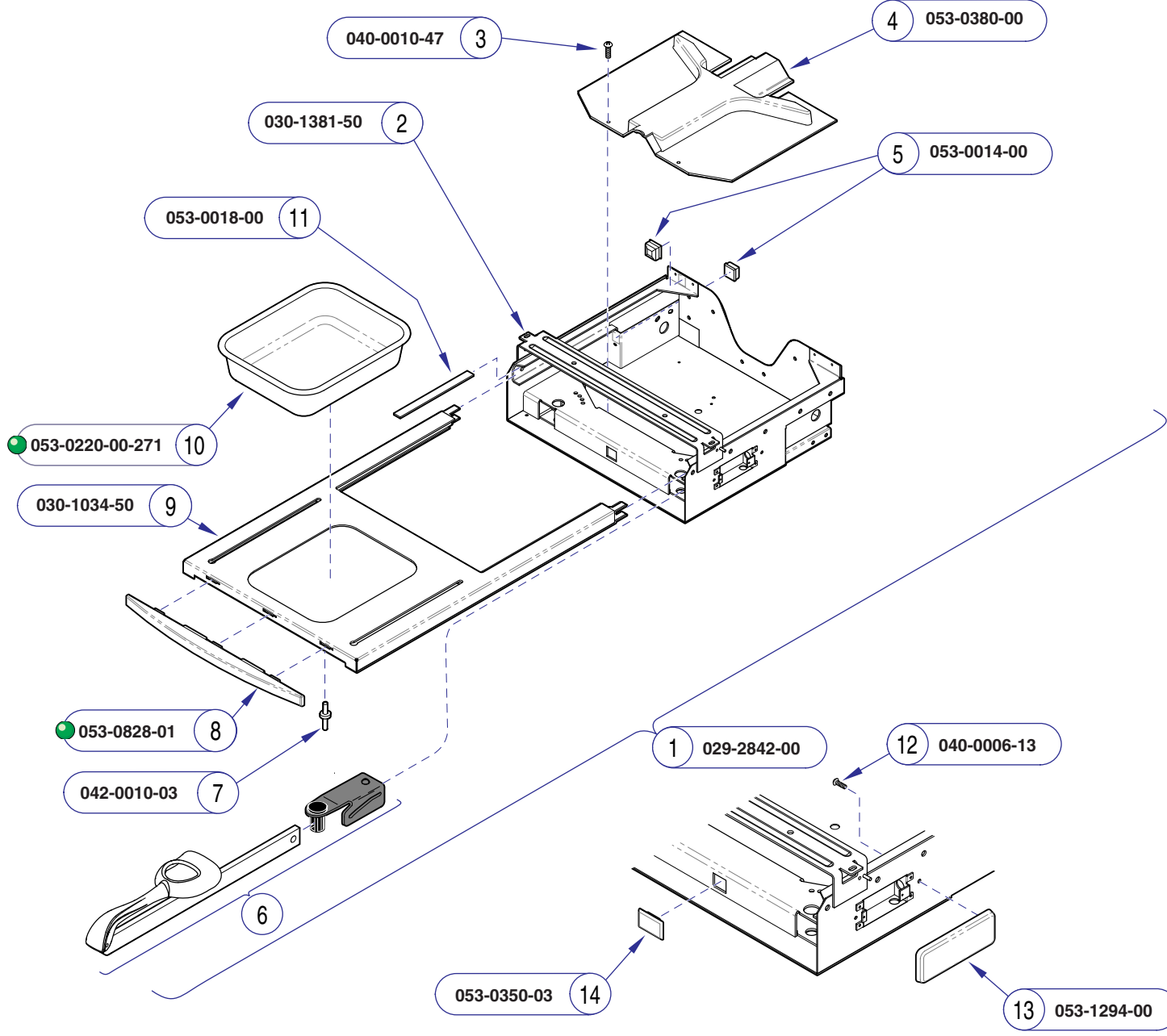
Models:
Serial Numbers:

622 (-007 & -008)
V1545233 - present

623 (-007 thru -011)
V1545233 - present

Table Shrouds
(Midmark models)

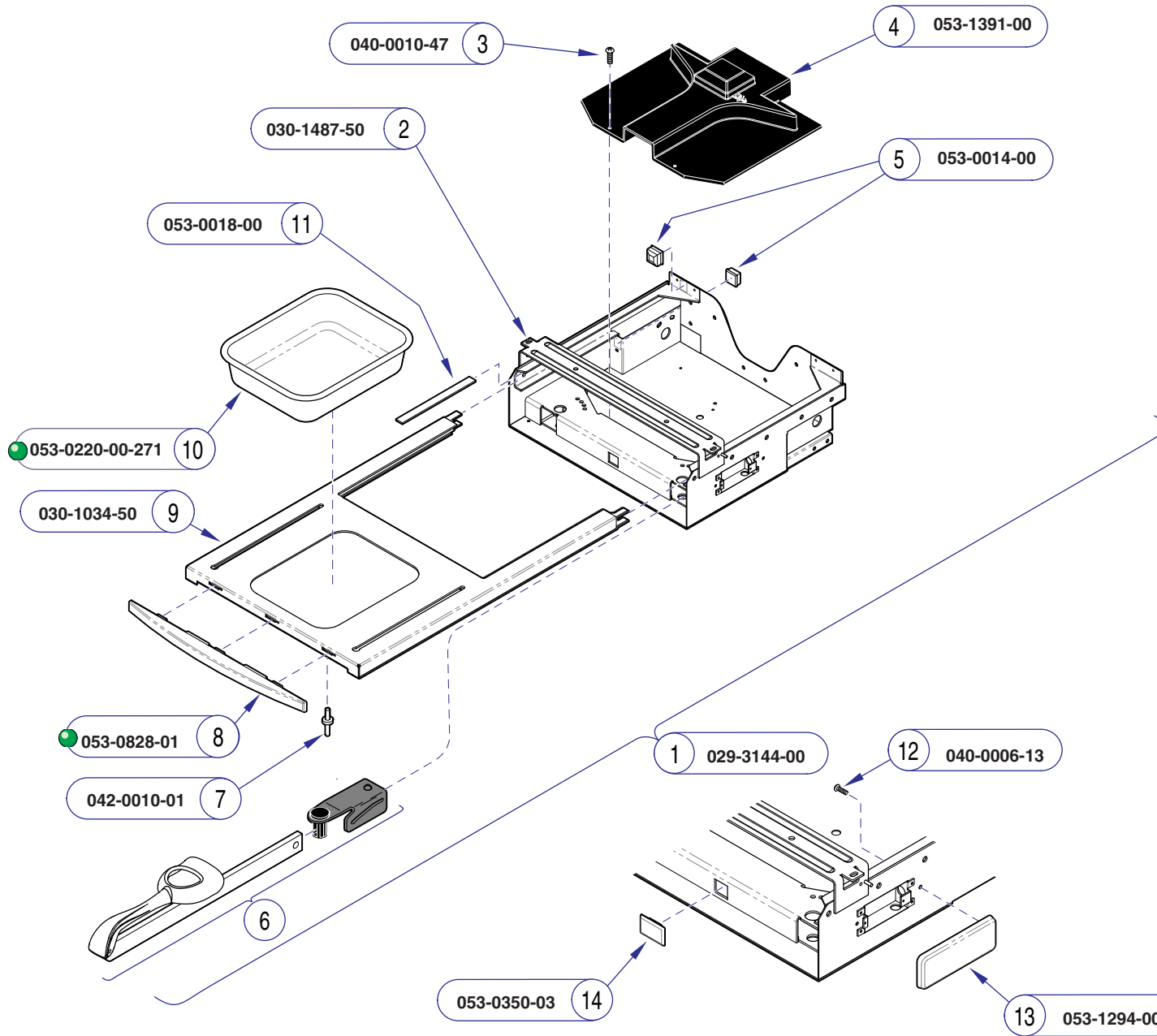
E-15.5



Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 11)	1
2	• Upper Wrap Weldment	1
3	• Screw (10-24 x 3/8")	6
4	• Stirrup Guide	1
5	• Bumper	4
6	• Refer to: "Stirrup Assembly"	2
7	• Pop Rivot	2
8	• Foot Rest Trim	1
9	• Foot Rest Shelf	1
10	• Plastic Treatment Pan	1
11	• Nylon Tape (sold by inch)	44
12	Screw (models w/o receptacle)	2
13	Cover (models w/o receptacle)	1
14	Cover (models w/o drawer htr.)	1

Always Specify Model & Serial Number

MA588908i



Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 11)	1
2	• Upper Wrap Weldment	1
3	• Screw (10-24 x 3/8")	6
4	• Stirrup Guide	1
5	• Bumper	4
6	• Refer to: "Stirrup Assembly"	2
7	• Pop Rivot	2
8	• Foot Rest Trim	1
9	• Foot Rest Shelf	1
10	• Plastic Treatment Pan	1
11	• Nylon Tape (sold by inch)	44
12	Screw (models w/o receptacle)	2
13	Cover (models w/o receptacle)	1
14	Cover (models w/o drawer htr.)	1

Always Specify Model & Serial Number

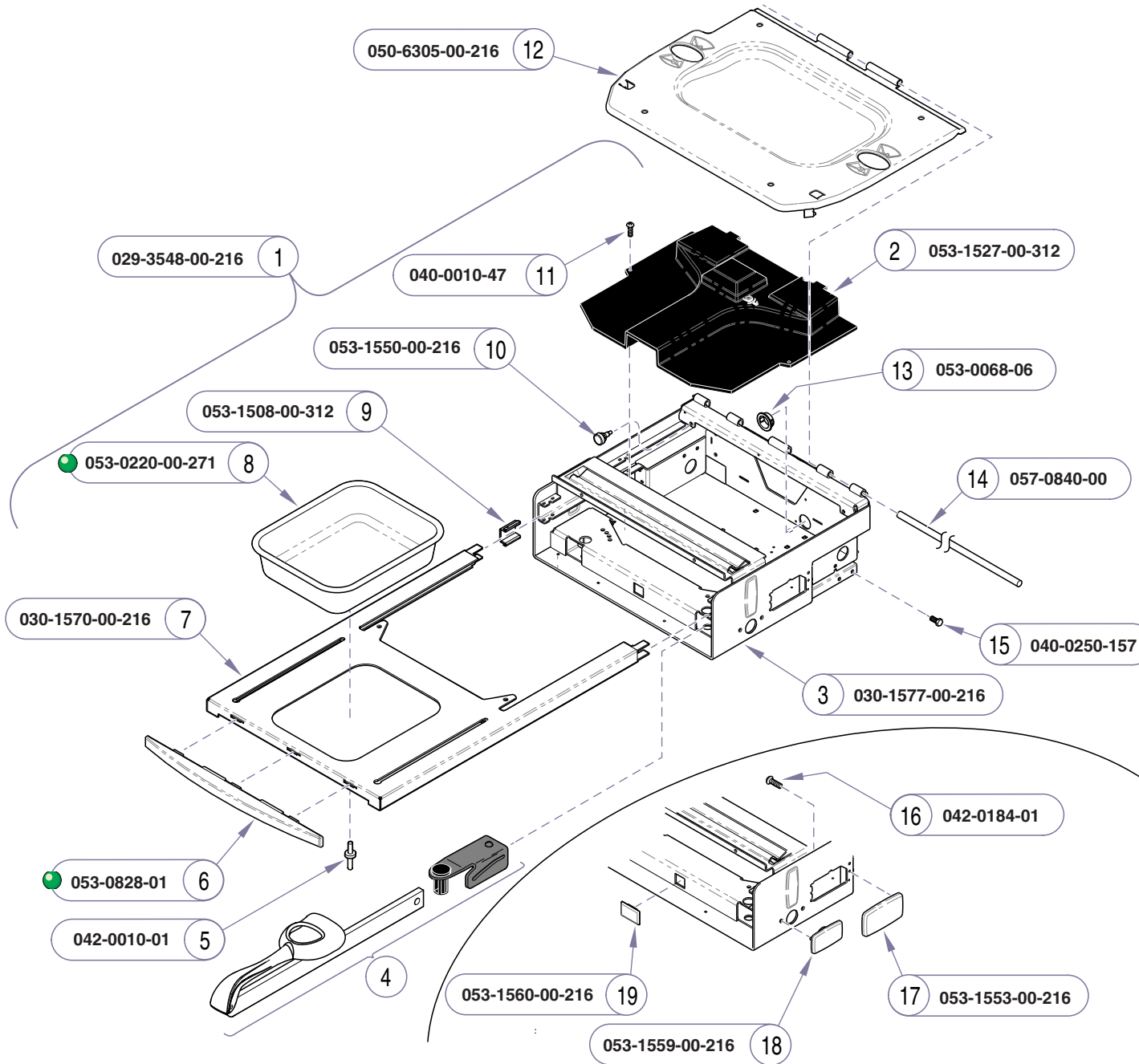
MA588909I

Models:
Serial Numbers:

222 (-001 thru -014) RG1124 thru present RJ1095 thru present RL1001 thru present V2200 thru present	223 (-001 thru -014) All RH1387 thru present RK1267 thru present RM1016 thru present
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**Ritter Upperwrap &
Footrest Shelf**

E-16.1



Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 11)	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: "Stirrup Assembly"	2
5	• Pop Rivot	2
6	• Foot Rest Trim	1
7	• Foot Rest Shelf	1
8	• Plastic Treatment Pan	1
9	• Runner Glide	4
10	• Stem Bumper	4
11	• Screw (#10-24 x 3/8")	2
12	Seat Mtg. Frame	1
13	Snap Bushing	3
14	Pivot Rod	1
15	Screw (1/4"-20 x 1/2")	4
Items 16 thru 19 are optional, depending on the table's features:		
16	Screw (10-24 x 3/8")	1
17	Cover (receptacle)	1
18	Cover (accessory socket hole)	1
19	Cover (drawer heater switch)	1

Always Specify Model & Serial Number

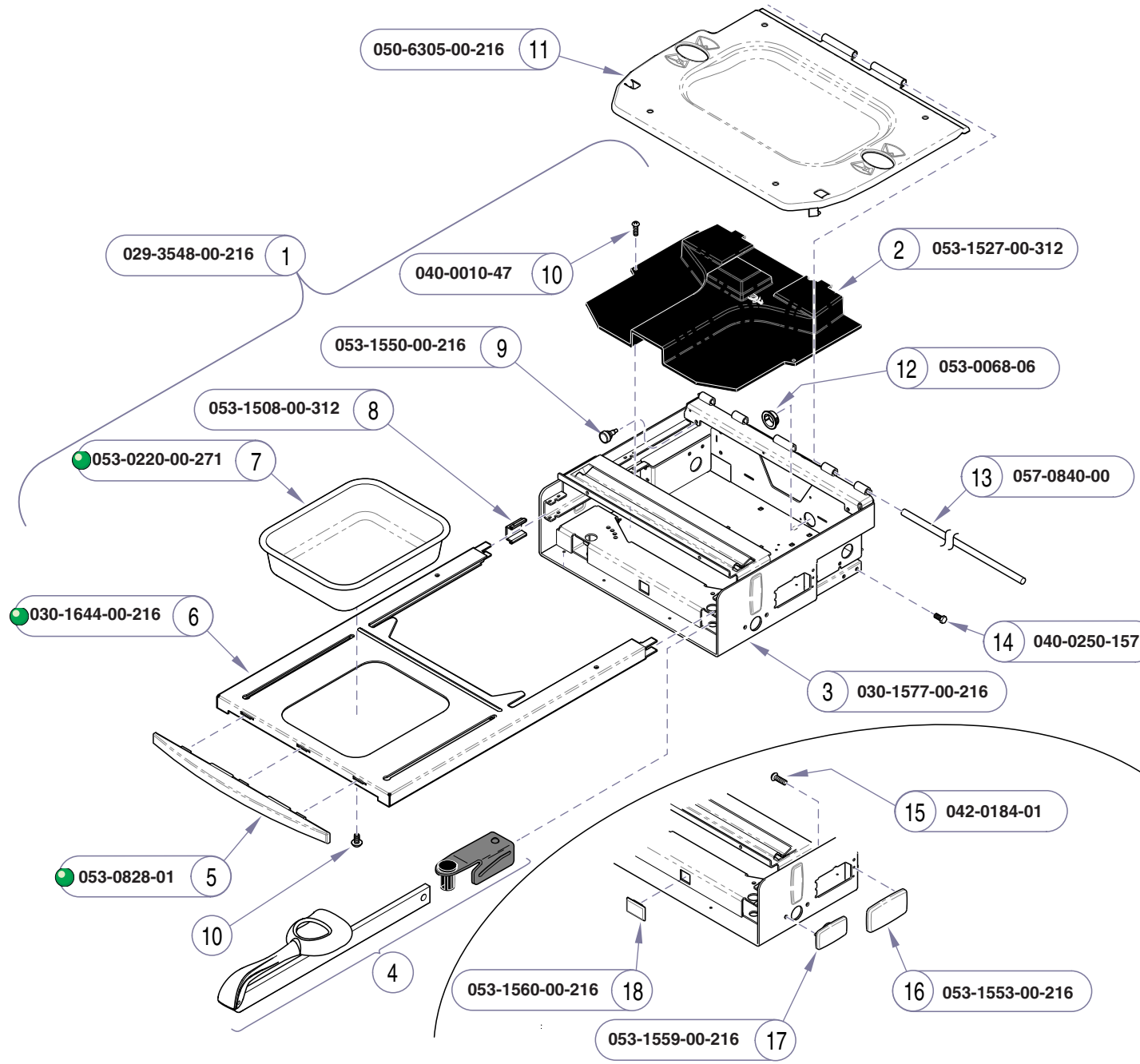
MA7118011

E-16.2

Ritter Upperwrap & Footrest Shelf

Models: 222 (-015 thru -017)
Serial Numbers: prior to V323419

223 (-015 thru -016)
prior to V323419



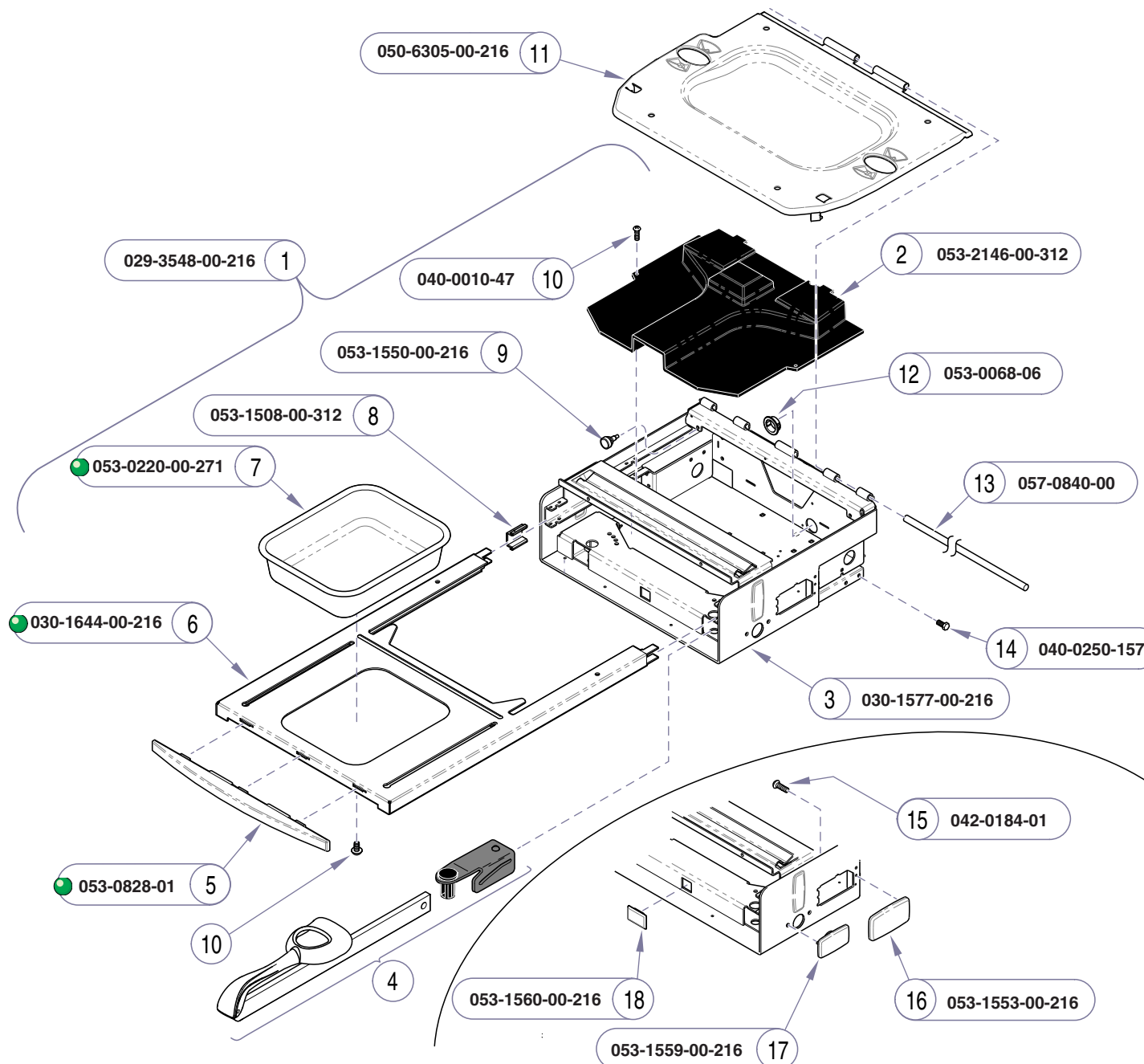
Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 10)	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: "Stirrup Assembly"	2
5	• Foot Rest Trim	1
6	• Foot Rest Shelf	1
7	• Plastic Treatment Pan	1
8	• Runner Glide	4
9	• Stem Bumper	4
10	• Screw (#10-24 x 3/8")	4
11	Seat Mtg. Frame	1
12	Snap Bushing	3
13	Pivot Rod	1
14	Screw (1/4"-20 x 1/2")	4
Items 15 thru 18 are optional, depending on the table's features:		
15	Screw (10-24 x 3/8")	1
16	Cover (receptacle)	1
17	Cover (accessory socket hole)	1
18	Cover (drawer heater switch)	1
Always Specify Model & Serial Number		

MA7118021

Models: 222 (-015 thru -017) | 223 (-015 thru -016)
Serial Numbers: V323419 to V816454 | V323419 to V816454

**Ritter Upperwrap &
Footrest Shelf**

E-16.3



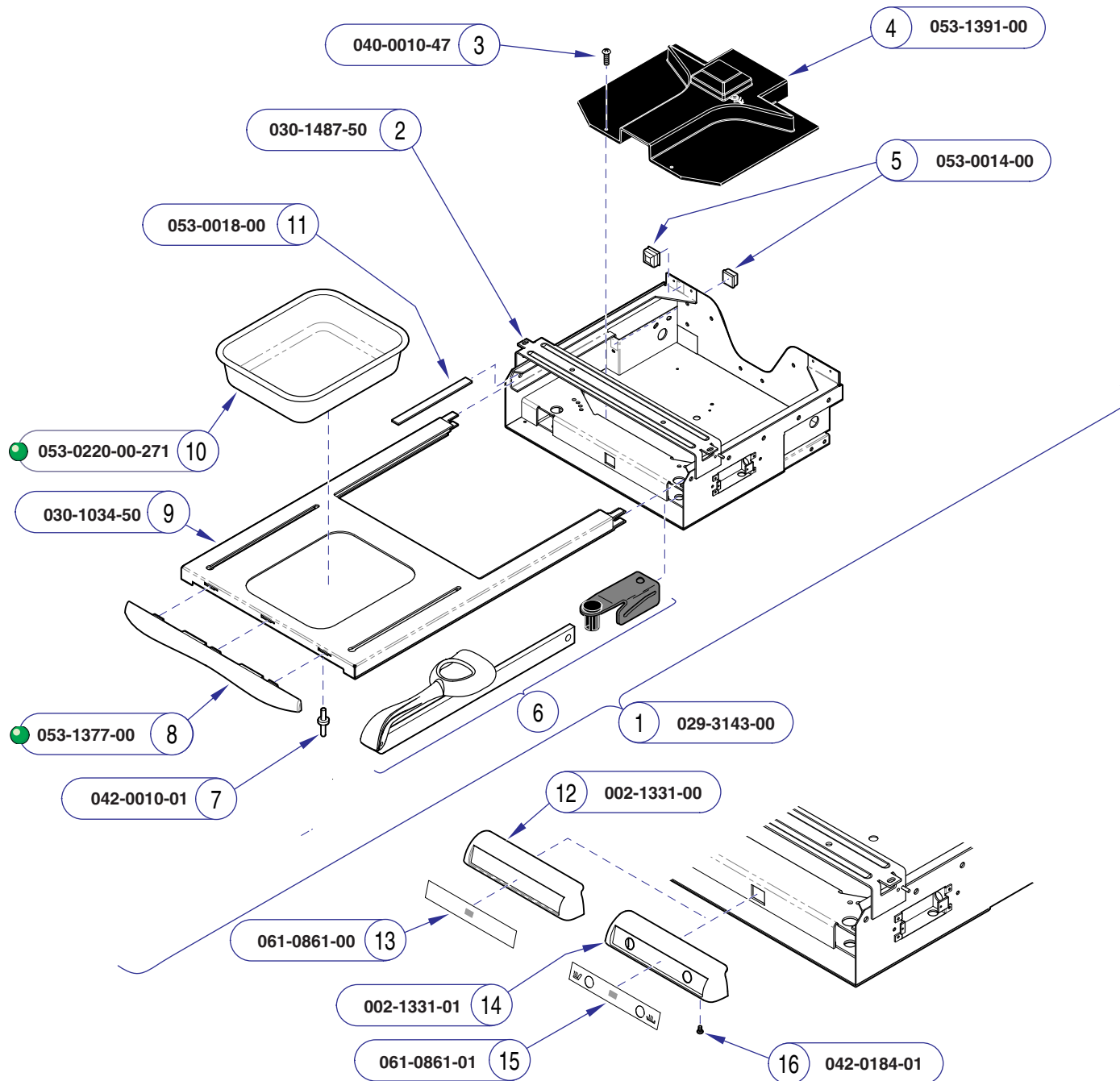
MA711803i

Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 10)	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: "Stirrup Assembly"	2
5	• Foot Rest Trim	1
6	• Foot Rest Shelf	1
7	• Plastic Treatment Pan	1
8	• Runner Glide	4
9	• Stem Bumper	4
10	• Screw (#10-24 x 3/8")	4
11	Seat Mtg. Frame	1
12	Snap Bushing	3
13	Pivot Rod	1
14	Screw (1/4"-20 x 1/2")	4

**Items 15 thru 18 are optional,
depending on the table's features:**

15	Screw (10-24 x 3/8")	1
16	Cover (receptacle)	1
17	Cover (accessory socket hole)	1
18	Cover (drawer heater switch)	1

Always Specify Model & Serial Number



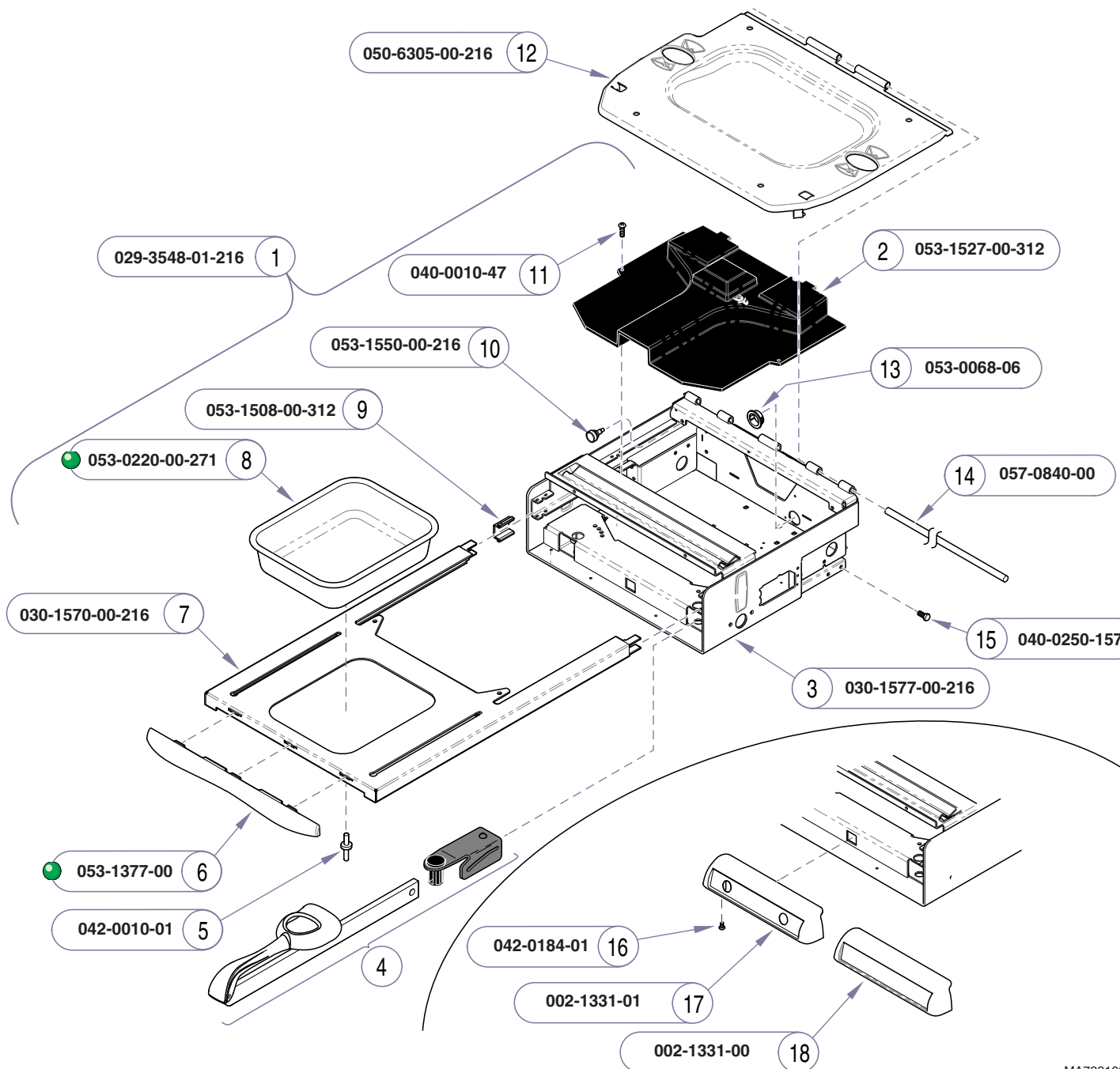
Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 11)	1
2	• Upper Wrap Weldment	1
3	• Screw (10-24 x 3/8")	6
4	• Stirrup Guide	1
5	• Bumper	4
6	• Refer to: "Stirrup Assembly"	2
7	• Pop Rivot	2
8	• Foot Rest Trim	1
9	• Foot Rest Shelf	1
10	• Plastic Treatment Pan	1
11	• Nylon Tape (sold by inch)	44
12	Switch Housing and Label Kit (without switch holes [includes label])	1
13	Switch Housing Label (no holes)	1
14	Switch Housing and Label Kit (with two switch holes [includes label])	1
15	Switch Housing Label (two holes)	1
16	Screw (K40 x 12)	2

Always Specify Model & Serial Number

MA5889101

Models: 622 (-001 thru -006) | 623 (-001 thru -006)
Serial Numbers: All | All

**Midmark Upperwrap &
Footrest Shelf**



MA723100i

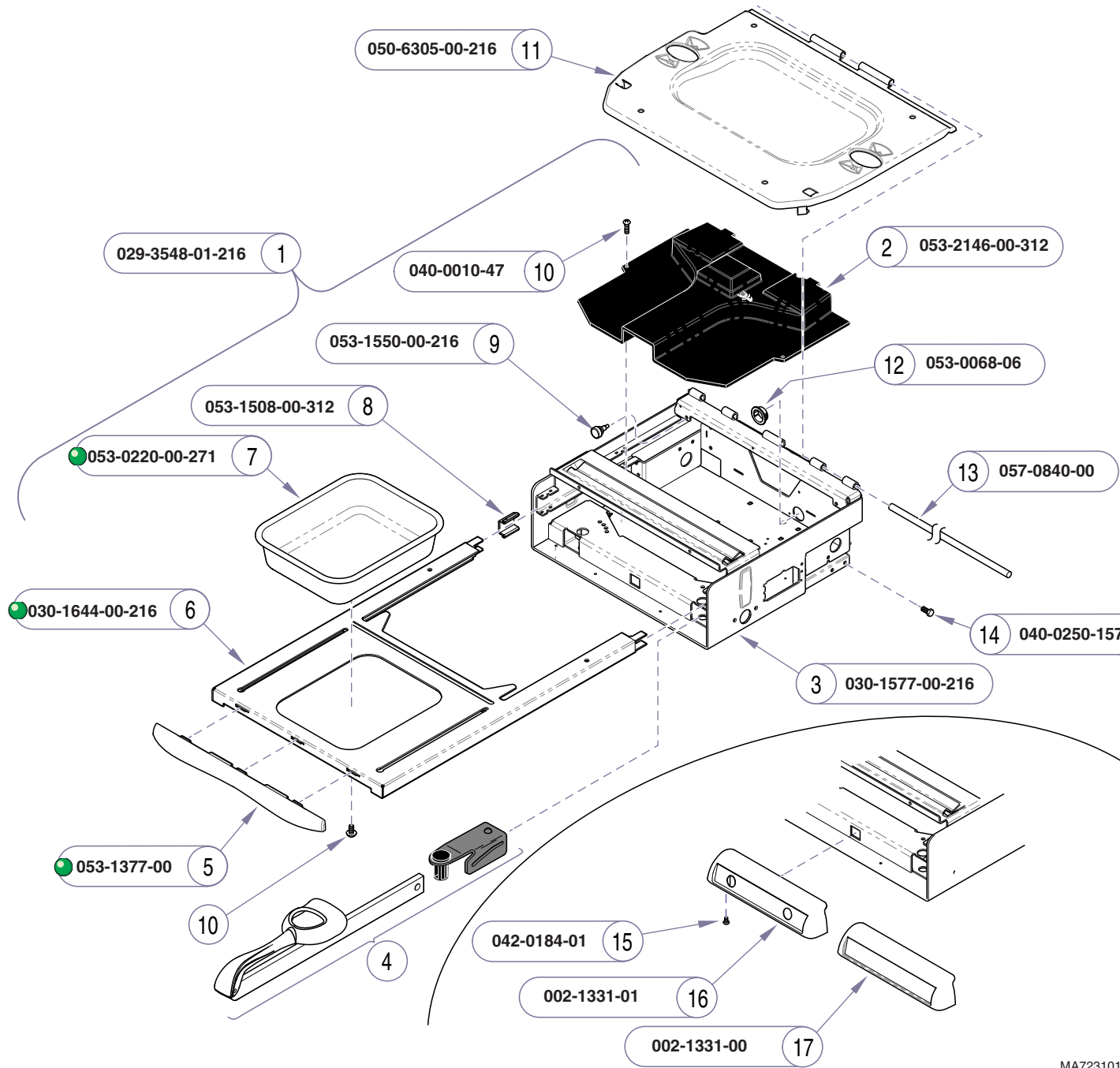
Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 11)	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: "Stirrup Assembly"	2
5	• Pop Rivot	2
6	• Foot Rest Trim	1
7	• Foot Rest Shelf	1
8	• Plastic Treatment Pan	1
9	• Runner Glide	4
10	• Stem Bumper	4
11	• Screw (#10-24 x 3/8")	2
12	Seat Mtg. Frame	1
13	Snap Bushing	3
14	Pivot Rod	1
15	Screw (1/4"-20 x 1/2")	4
16	Screw	2
17	Switch Housing and Label Kit (without switch holes [includes label])	1
18	Switch Housing and Label Kit (with two switch holes [includes label])	1

Always Specify Model & Serial Number

Midmark Upperwrap & Footrest Shelf

Models: 622 (-007 & -008)
Serial Numbers: prior to V323419

623 (-007 thru -010)
prior to V323419



MA723101i

Item	Description	Qty.
1	Upperwrap Assembly (includes items 2 thru 10)	1
2	• Stirrup Guide	1
3	• Upper Wrap Weldment	1
4	• Refer to: "Stirrup Assembly"	2
5	• Foot Rest Trim	1
6	• Foot Rest Shelf	1
7	• Plastic Treatment Pan	1
8	• Runner Glide	4
9	• Stem Bumper	4
10	• Screw (#10-24 x 3/8")	4
11	Seat Mtg. Frame	1
12	Snap Bushing	3
13	Pivot Rod	1
14	Screw (1/4"-20 x 1/2")	4
15	Screw	2
16	Switch Housing and Label Kit (without switch holes [includes label])	1
17	Switch Housing and Label Kit (with two switch holes [includes label])	1

Always Specify Model & Serial Number

Models:
Serial Numbers: **622 (-007 & -008)**
V323419 thru present | **623 (-007 thru -011)**
V323419 thru present

**Midmark Upperwrap &
Footrest Shelf**

E-17.2



Refer To:

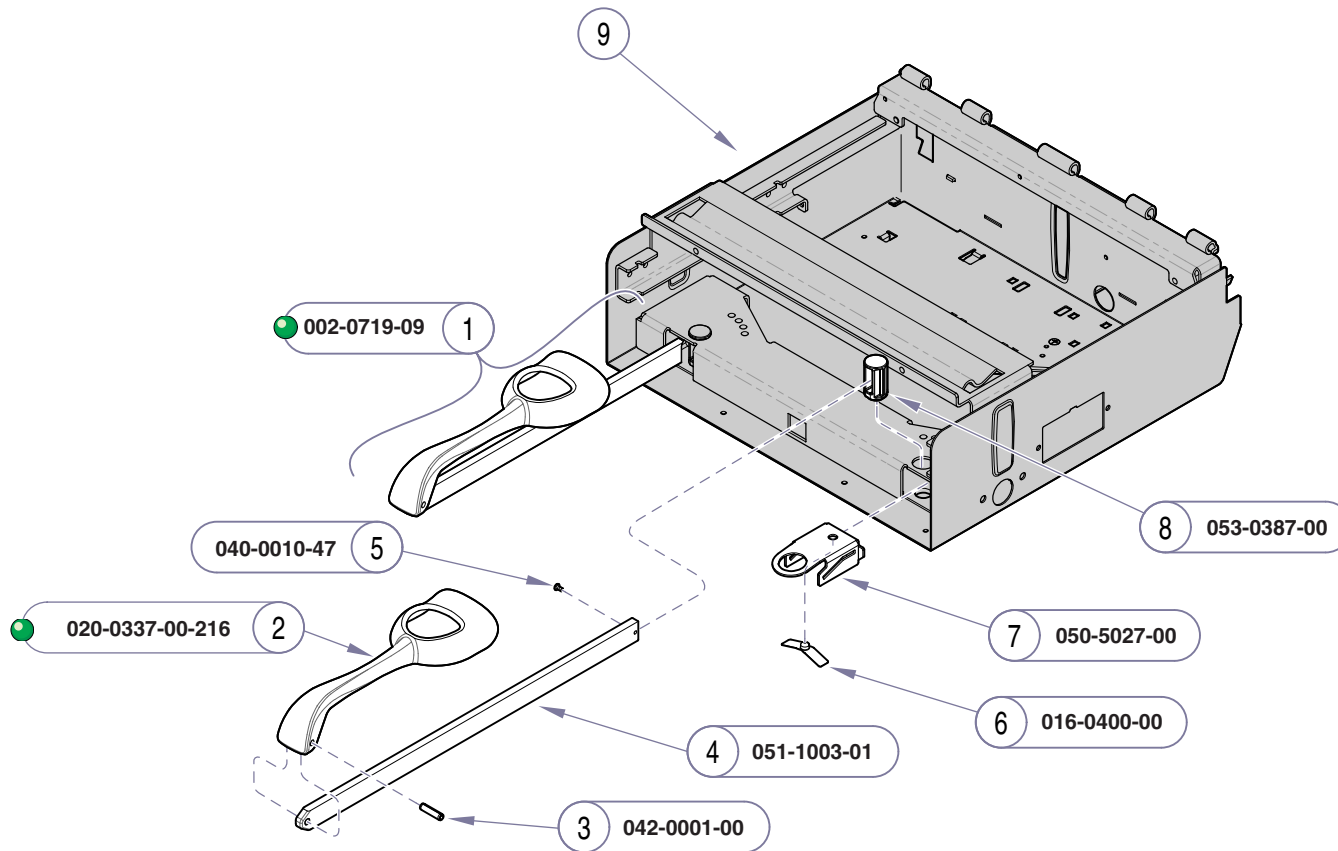
Go To Page:

Upperwrap & Footrest Shelf:

Ritter models E-16*

Midmark models E-17*

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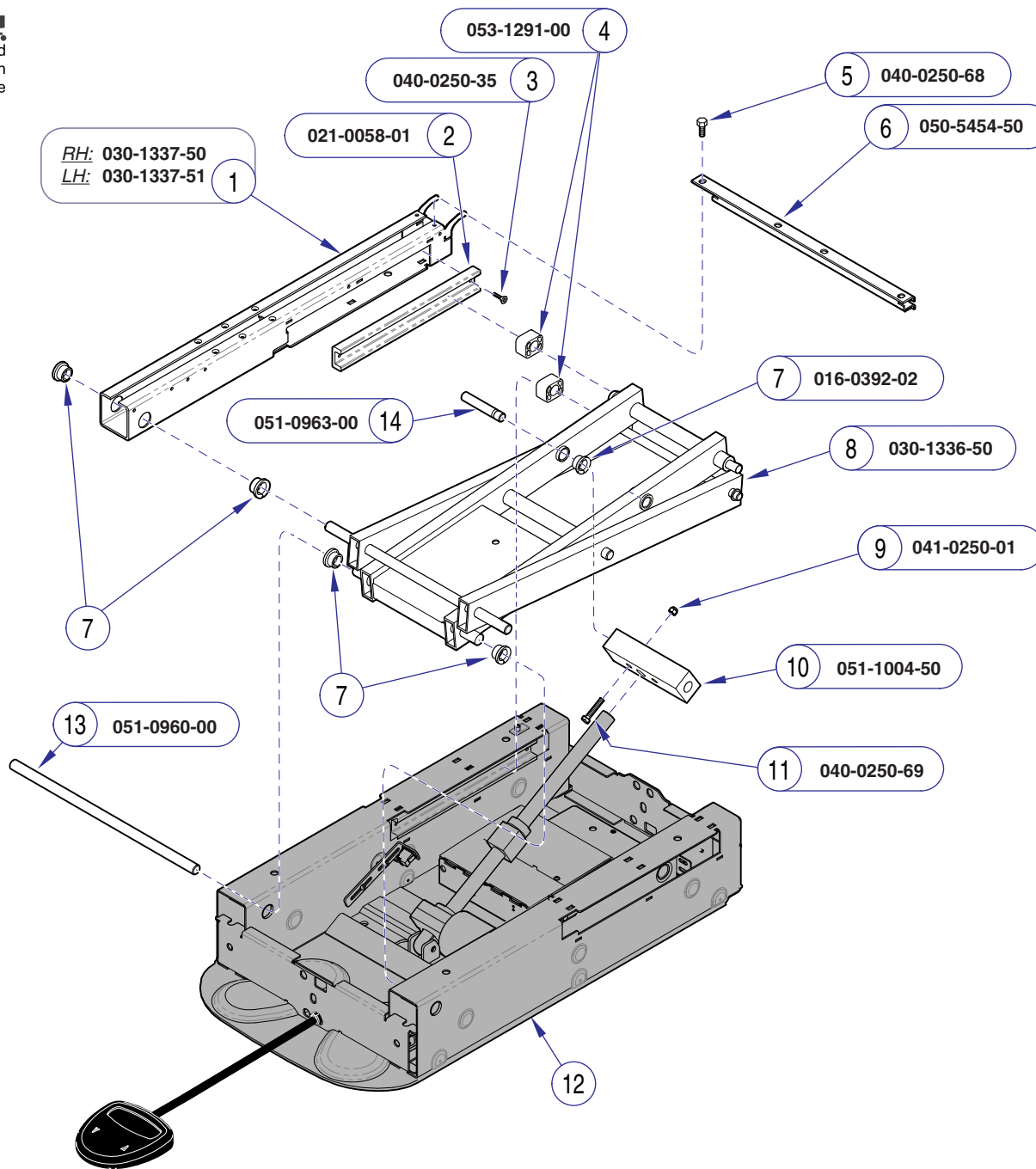


MA703900i

MA703900i

Item	Description	Qty.
1	Stirrup Assembly Set (incl. two assemblies) (includes items 2 thru 4)	1
2	• Stirrup	1
3	• Roll Pin	1
4	• Stirrup Bar	1
5	Screw (#10-24 x 3/8")	2
6	Guide Bracket Spring	2
7	Guide Bracket	2
8	Pivot Boss	2
9	Refer to: "Upperwrap & Footrest Shelf"... Ref	

Always Specify Model & Serial Number



MA588104i

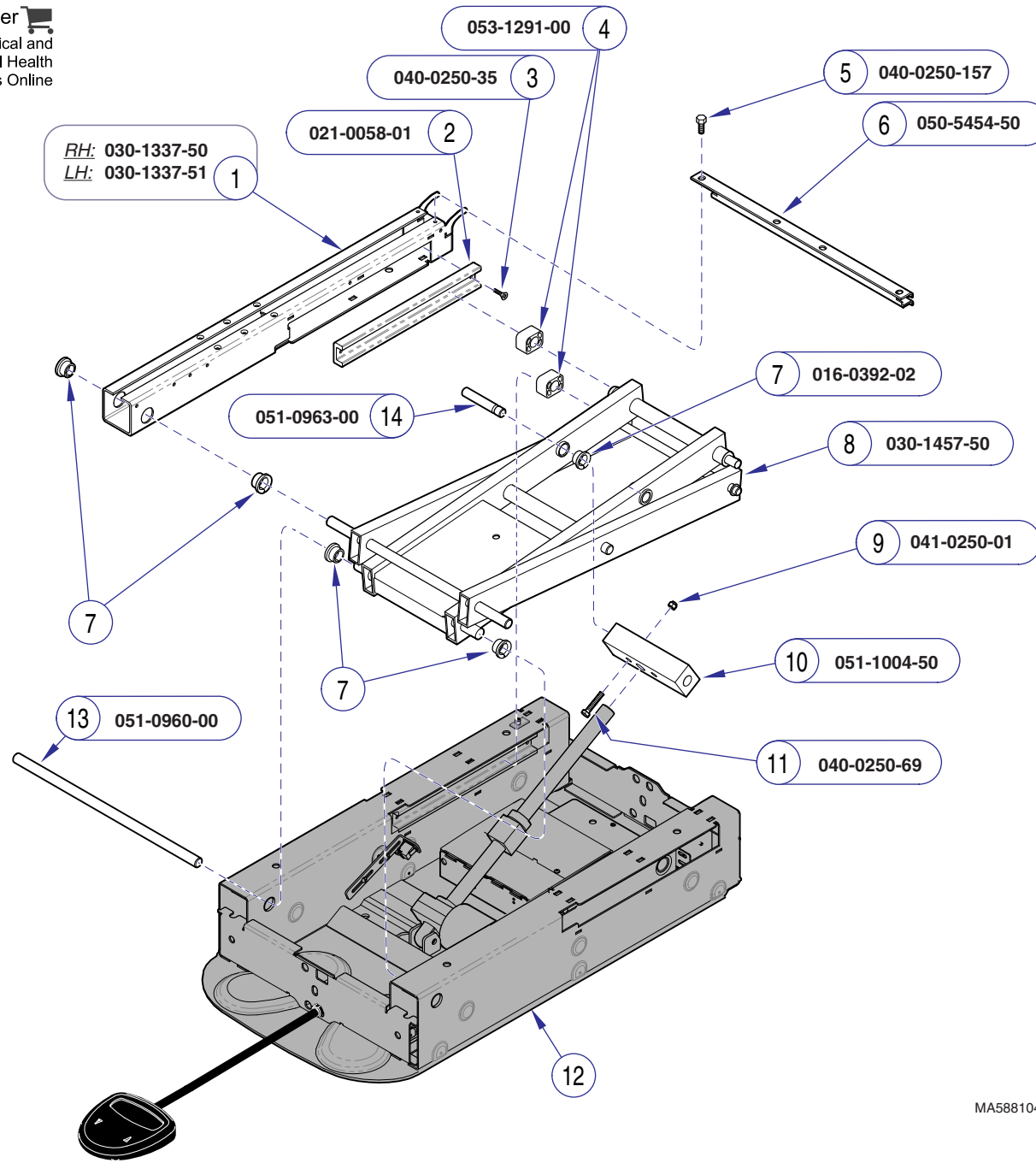
Item	Description	Qty.
1	Scissor Channel Weldment (RH shown)	2
2	Extrusion Slide	2
3	Flat Head Screw (1/4-20 x .5")	4
4	Bearing Guide	4
5	Screw (1/4-20 type F)	2
6	Top Cover Support Channel	1
7	Flange Bearing	8
8	Scissor Arm Weldment Kit	1
9	Lock Nut	2
10	Thru Block	1
11	Screw (1/4-20 x 2.25")	2
12	Refer to "Base Components"	Ref
13	Pivot Shaft	1
14	Stub Shaft	2

Always Specify Model & Serial Number

Models:
Serial Numbers:

222 (-001 thru -010)
RG1000 thru RG1123 RH1000 thru RH1386
RJ1000 thru RJ1094 RK1000 thru RK1266
RL1000 (one table) RM1001 (one table)

**Base Scissor / Slide
Mechanism**



MA588104I

Refer To:

Base Components:

Ritter models E-20.1*

* multiple pages due to model / serial # break

Go To Page:

Item	Description	Qty.
1	Scissor Channel Weldment (RH shown)	2
2	Extrusion Slide	2
3	Flat Head Screw (1/4-20 x .5")	4
4	Bearing Guide	4
5	Screw (1/4-20 type F)	2
6	Top Cover Support Channel	1
7	Flange Bearing	8
8	Scissor Arm Weldment Kit	1
9	Lock Nut	2
10	Thru Block	1
11	Screw (1/4-20 x 2.25")	2
12	Refer to "Base Components"	Ref
13	Pivot Shaft	1
14	Stub Shaft	2

Always Specify Model & Serial Number

Base Scissor / Slide
Mechanism

Models:
Serial Numbers:

222 (-001 thru -010)

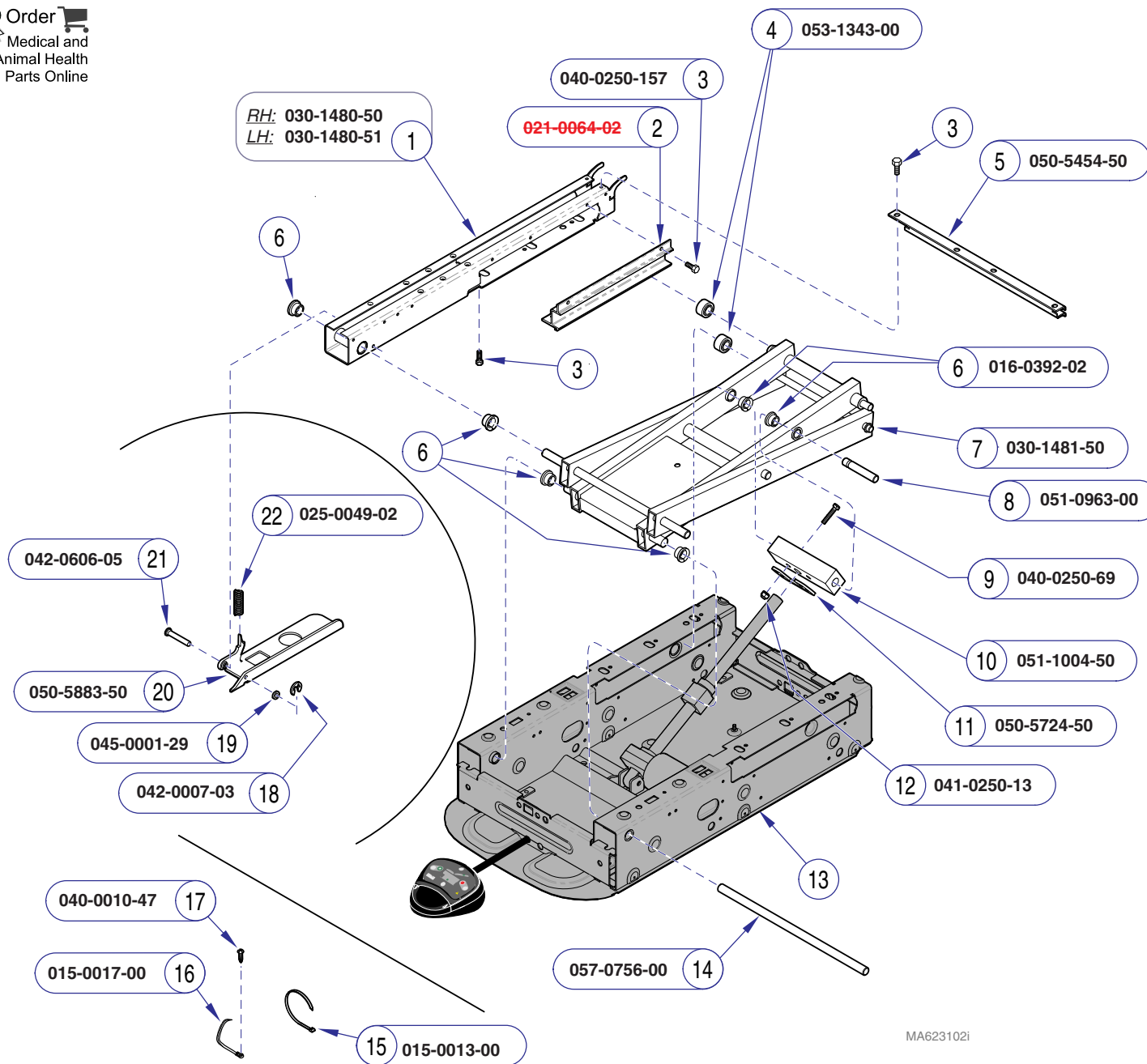
RG1124 thru RG1530 RH1387 thru RH1820
RJ1095 thru RJ1312 RH1830 (one table)
RK1267 thru RK1334 RL1001 thru RL1060
RM1001 thru RM1015

Base Components:

Ritter models E-20.1*

Midmark models E-21*

* multiple pages due to model / serial # break



Item	Description	Qty.
1	Scissor Channel Weldment (RH shown)	2
2	Extrusion Slide	2
3	Flat Head Screw (1/4-20 x 1/2")	4
4	Bearing Guide	4
5	Top Cover Support Channel	1
6	Flange Bearing	6
7	Scissor Arm Weldment Kit	1
8	Stub Shaft	2
9	Screw (1/4"-20 x 2.25")	2
10	Thru Block	1
11	Thru Block Bracket	1
12	Lock Nut (1/4"-20)	2
13	Refer to "Base Components"	Ref
14	Pivot Shaft	1
15	Cable Tie	1
16	Cable Tie w/screw hole	3
17	Screw (10-24 x .37")	3
<i>Items 18 thru 22 apply only to 623 models</i>		
18	E-clip	1
19	Washer	1
20	Auto-return Switch Strike	1
21	Clevis Pin	1
22	Spring	1

Always Specify Model & Serial Number

MA623102i

Models:

Serial Numbers: **222 (all)**
 RG1531 thru present RH1821 thru RH1829
 RJ1313 thru present RH1831 thru present
 RK1335 thru present RL1061 thru present
 RM1016 thru present V2200 thru V489138

223 (all)

V2200 thru V489138
 & all prefixes:
 SC, SD, SE, SF,
 SG, SH

622 (all)

V2200 thru V489138
 & all prefixes:
 SJ, SK, SN, SP

623 (all)

V2200 thru V489138
 & all prefixes:
 SL, SM, SR, SS

**Base Scissor / Slide
Mechanism**

E-19.2

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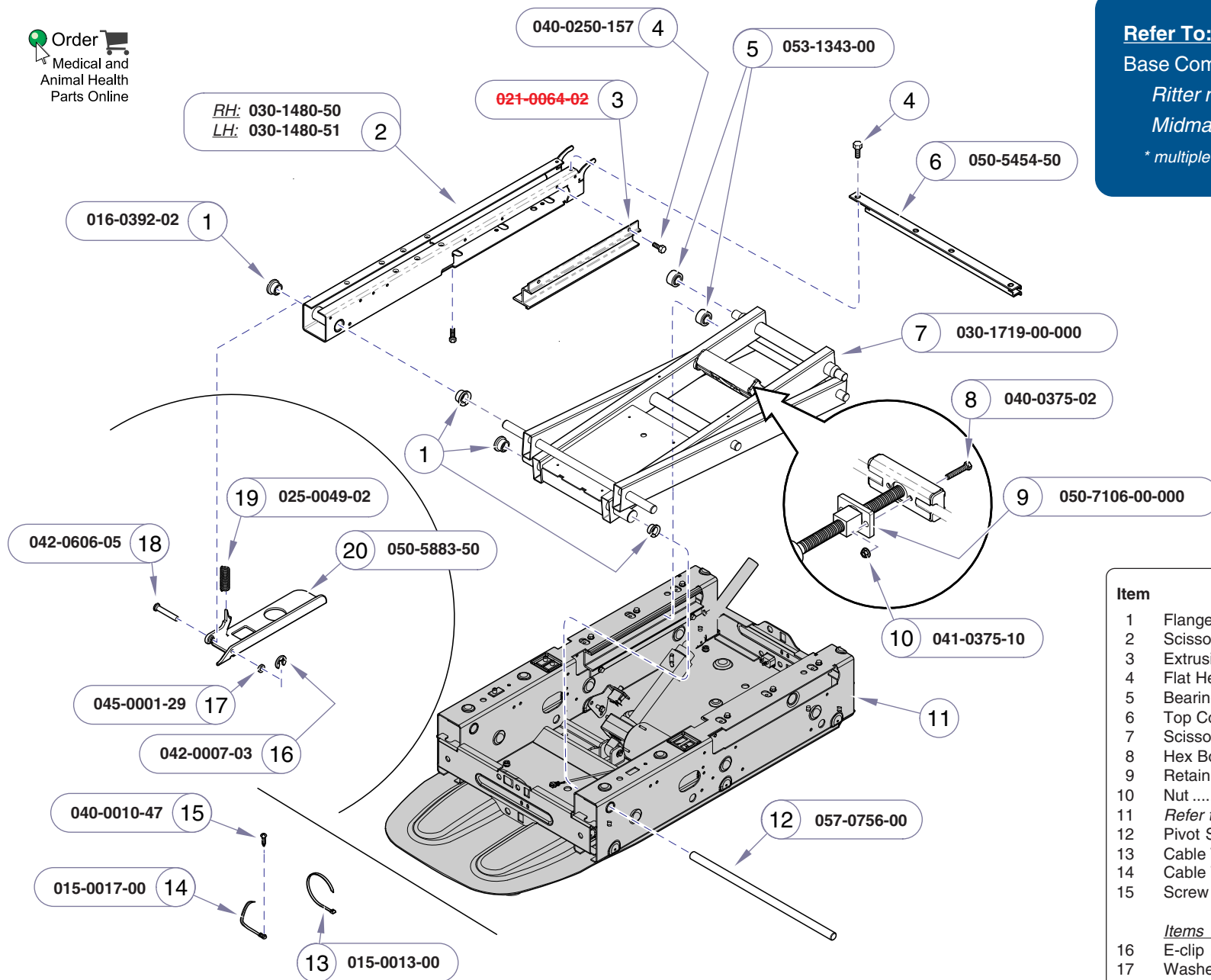
Go To Page:

Base Components:

Ritter models E-20.1*

Midmark models E-21*

* multiple pages due to model / serial # break



Item	Description	Qty.
1	Flange Bearing	6?
2	Scissor Channel Weldment (RH shown)	2
3	Extrusion Slide	2
4	Flat Head Screw (1/4-20 x 1/2")	4
5	Bearing Guide	4
6	Top Cover Support Channel	1
7	Scissor Arm Weldment Kit	1
8	Hex Bolt (3/8"-16 x 1 1/4")	2
9	Retaining Plate	1
10	Nut	2
11	Refer to "Base Components"	Ref
12	Pivot Shaft	1
13	Cable Tie	1
14	Cable Tie w/screw hole	3
15	Screw (10-24 x .37")	3
<u>Items 16 thru 20 apply only to 623 models</u>		
16	E-clip	1
17	Washer	1
18	Auto-return Switch Strike	1
19	Clevis Pin	1
20	Spring	1

Always Specify Model & Serial Number

Base Scissor / Slide Mechanism

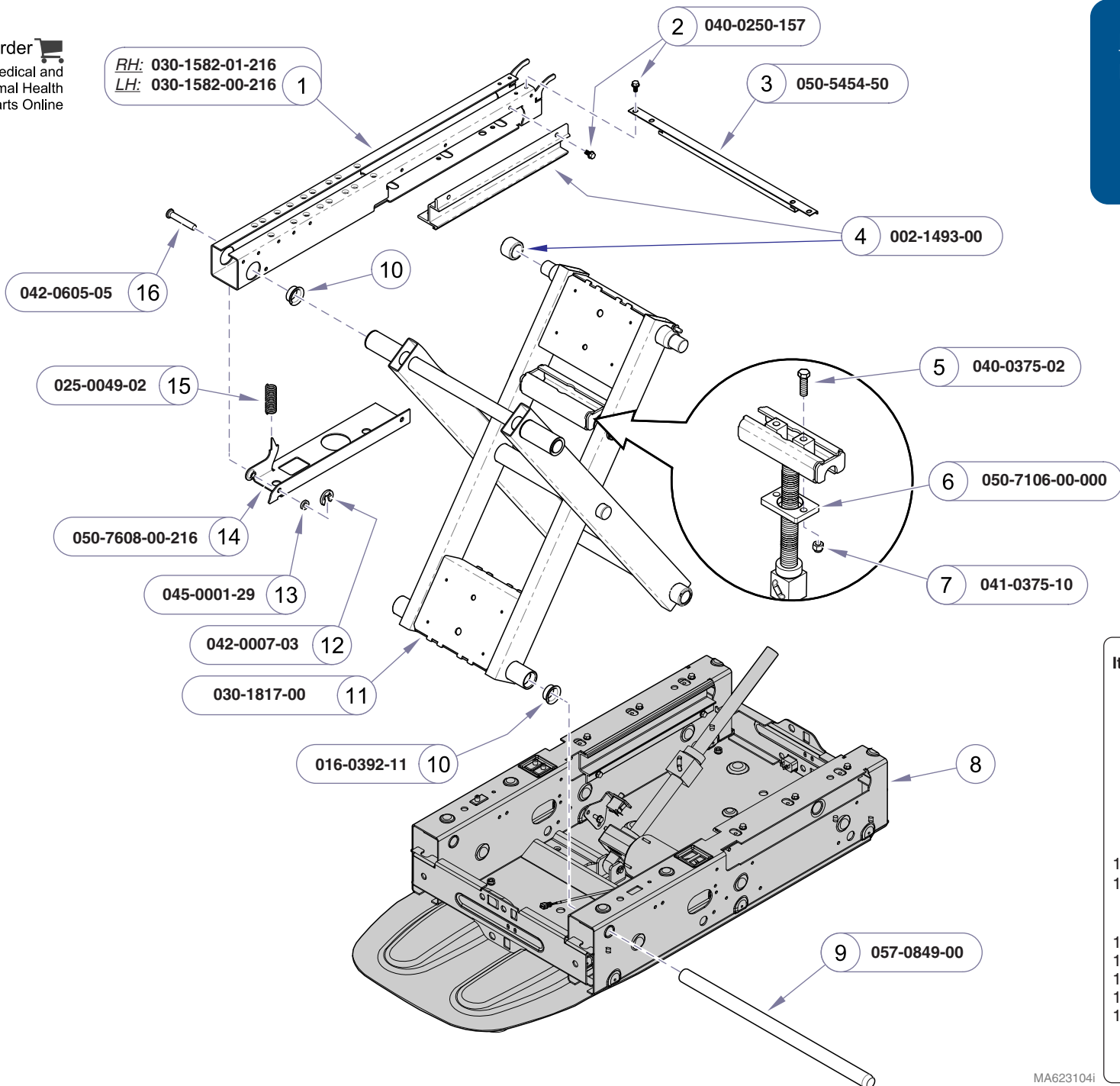
Models: 222 (-015 thru -017)
Serial Numbers: V489139 thru V798445

Models: 223 (-015 & -016)
Serial Numbers: V489139 thru V798445

Models: 622 (-007 & -008)
Serial Numbers: V489139 thru V798445

Models: 623 (-007 thru -010)
Serial Numbers: V489139 thru V798445

RH: 030-1582-01-216
LH: 030-1582-00-216



Refer To:

Go To Page:

Base Components:

Ritter models E-20.1*

Midmark models E-21*

* multiple pages due to model / serial # break

Item	Description	Qty.
1	Scissor Channel Weldment (RH shown)	2
2	Flat Head Screw (1/4-20 x 1/2")	4
3	Top Cover Support Channel	1
4	Kit, Scissor Rollers	1
5	Hex Bolt (3/8"-16 x 1 1/4")	2
6	Retaining Plate	1
7	Nut	2
8	Refer to "Base Components"	Ref
9	Pivot Shaft	1
10	Flange Bearing	6
11	Scissor Arm Weldment Kit	1
<u>Items 12 thru 16 apply only to 623 models</u>		
12	E-clip	1
13	Washer	1
14	Auto-return Switch Strike	1
15	Spring	1
16	Clevis Pin	1

Always Specify Model & Serial Number

Models:	222 (-015 thru -017)	223 (-015 & -016)	622 (-007 & -008)	623 (-007 thru -010)
Serial Numbers:	V798446 thru V897639	V798446 thru V897639	V798446 thru V897639	V798446 thru V897639

**Base Scissor / Slide
Mechanism**

E-19.4

Refer To:

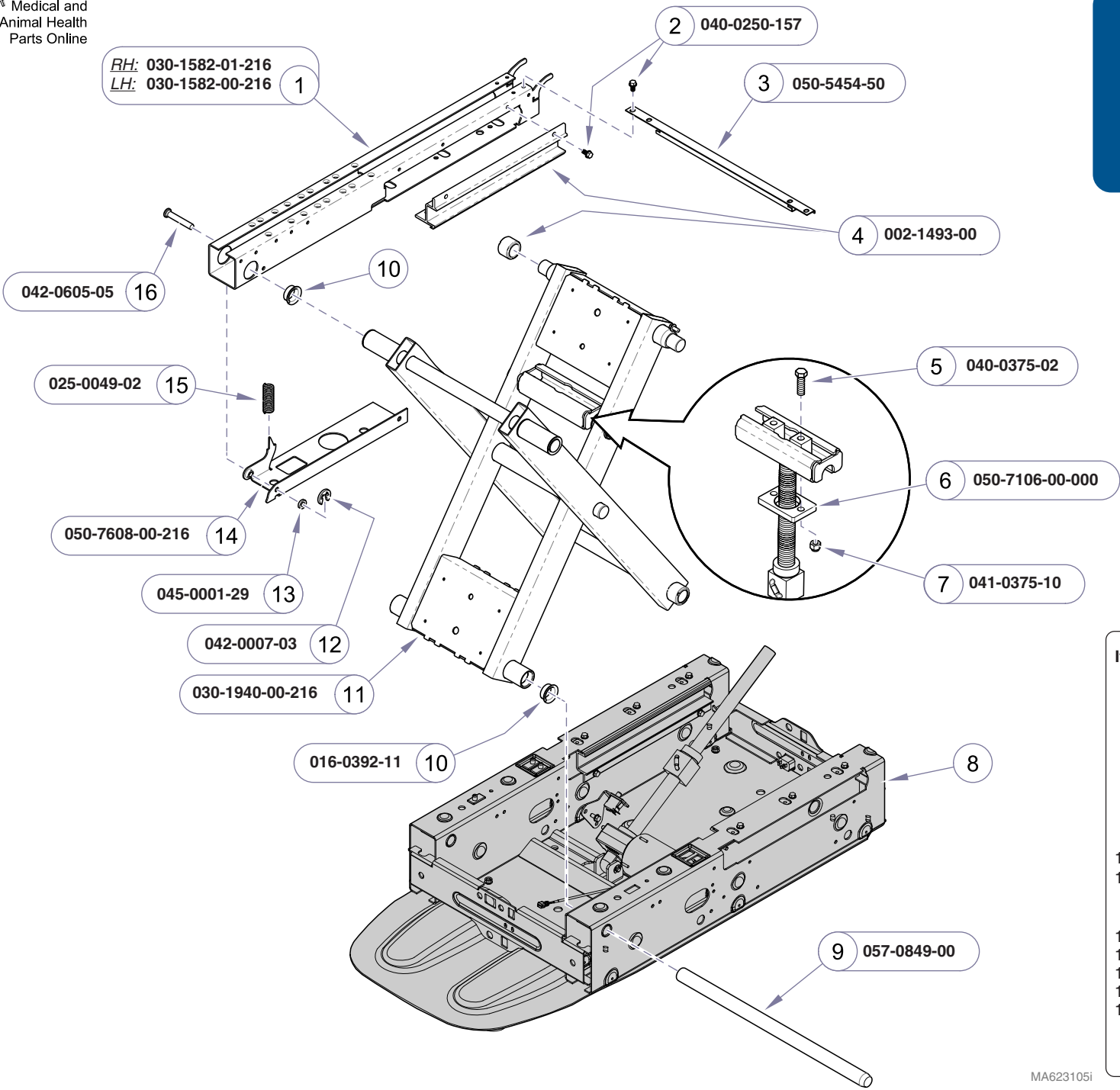
Go To Page:

Base Components:

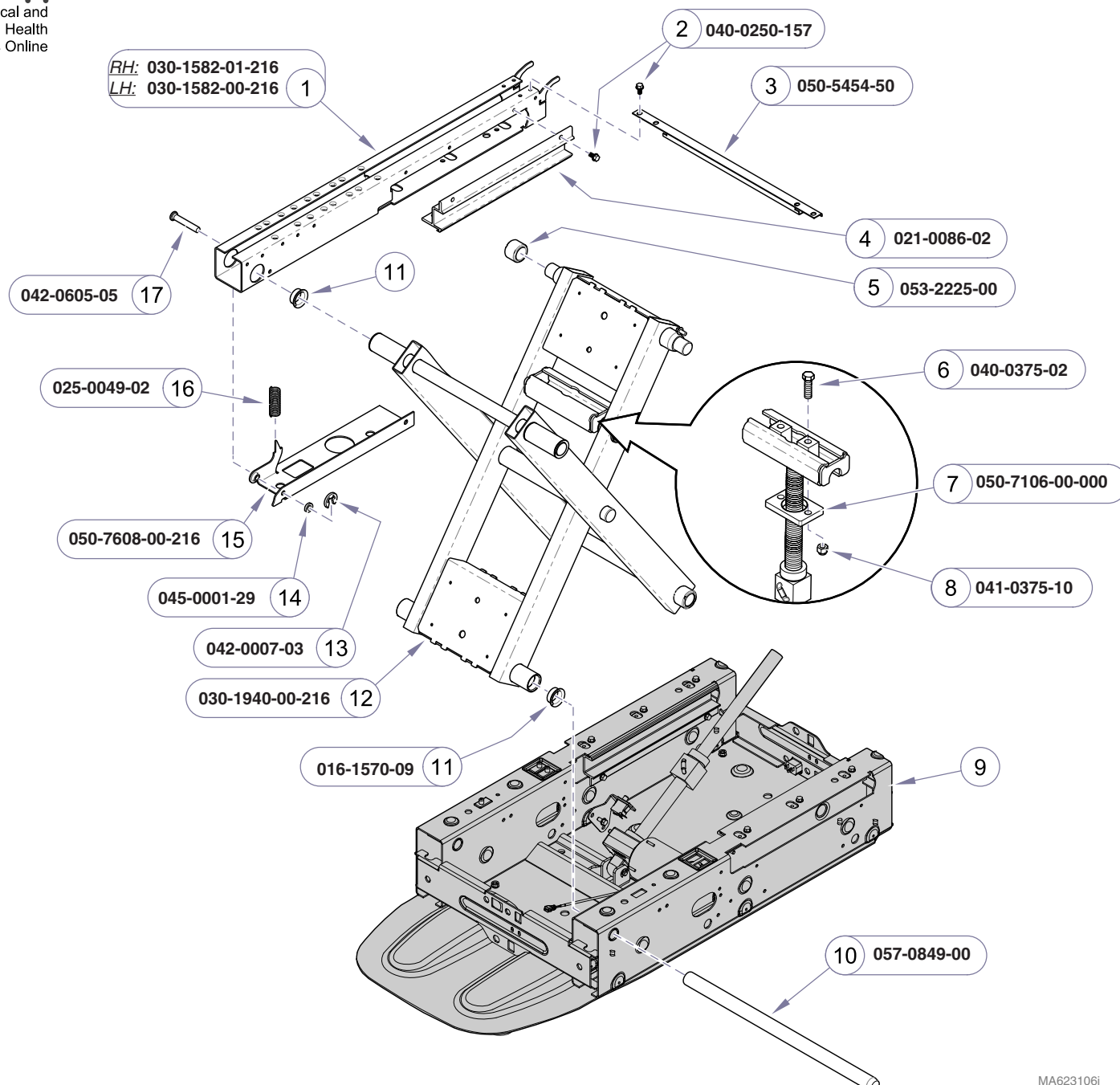
Ritter models E-20.1*

Midmark models E-21*

* multiple pages due to model / serial # break



Item	Description	Qty.
1	Scissor Channel Weldment (RH shown)	2
2	Flat Head Screw (1/4-20 x 1/2")	4
3	Top Cover Support Channel	1
4	Kit, Scissor Rollers	1
5	Hex Bolt (3/8"-16 x 1 1/4")	2
6	Retaining Plate	1
7	Nut	2
8	Refer to "Base Components"	Ref
9	Pivot Shaft	1
10	Flange Bearing	6
11	Scissor Arm Weldment Kit	1
<u>Items 12 thru 16 apply only to 623 models</u>		
12	E-clip	1
13	Washer	1
14	Auto-return Switch Strike	1
15	Spring	1
16	Clevis Pin	1
Always Specify Model & Serial Number		



Item	Description	Qty.
1	Scissor Channel Weldment (<i>RH shown</i>)	2
2	Flat Head Screw (1/4-20 x 1/2")	4
3	Top Cover Support Channel	1
4	Slide Extrusion	2
5	Bearing Guide	4
6	Hex Bolt (3/8"-16 x 1 1/4")	2
7	Retaining Plate	1
8	Nut	2
9	Refer to "Base Components"	Ref
10	Pivot Shaft	1
11	Flange Bearing	6
12	Scissor Arm Weldment Kit	1
<i>Items 13 thru 17 apply only to 623 models</i>		
13	E-clip	1
14	Washer	1
15	Auto-return Switch Strike	1
16	Spring	1
17	Clevis Pin	1

Always Specify Model & Serial Number

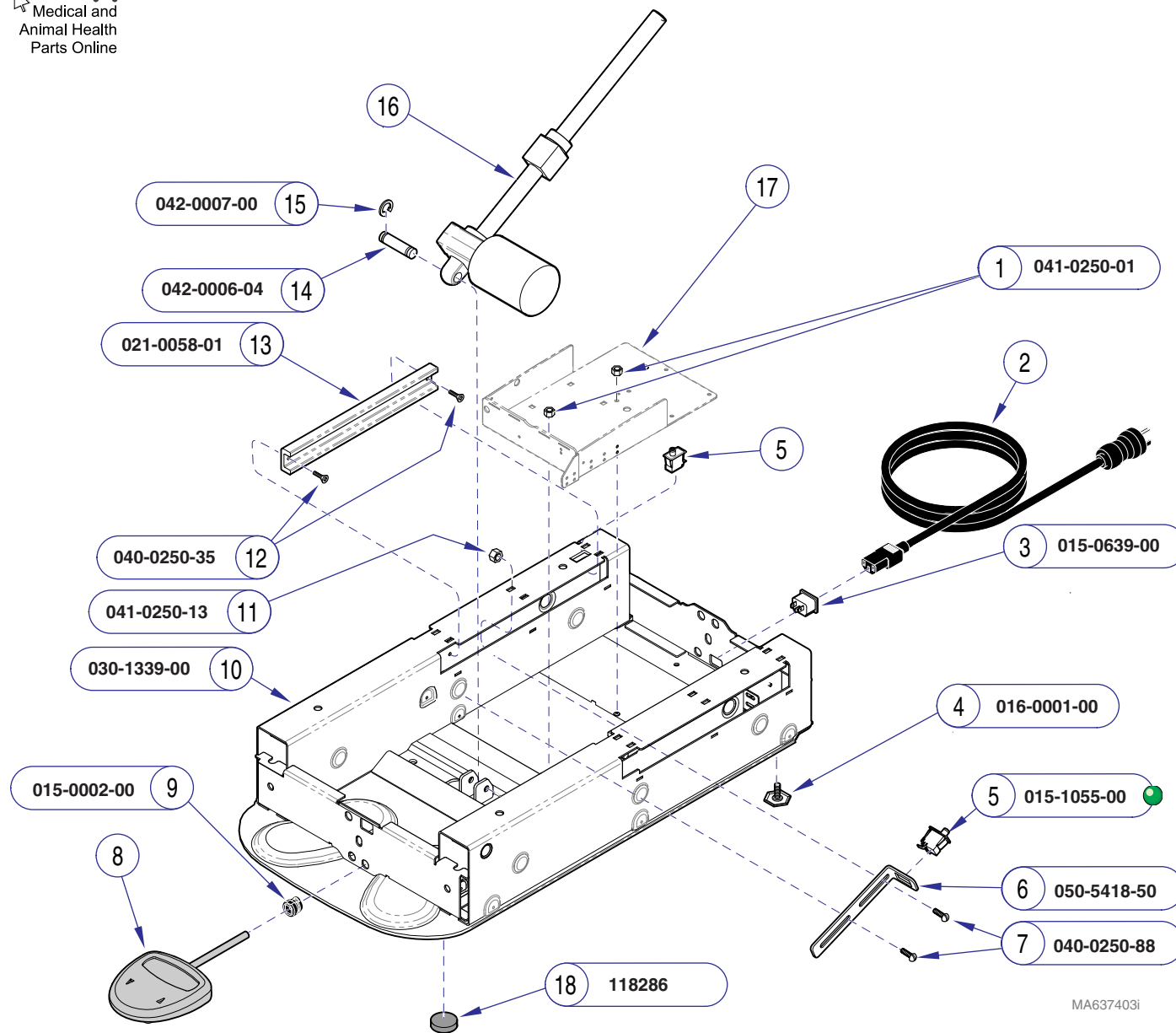
MA623106i

Models:	222 (-015 thru -017)	223 (-015 & -016)	622 (-007 & -008)	623 (-007 thru -011)
Serial Numbers:	V1158422 thru Present	V1158422 thru Present	V1158422 thru Present	V1158422 thru Present

**Base Scissor / Slide
Mechanism**

E-19.6

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MA637403i

Refer To:

Go To Page:

Foot Control - 222 / 622	E-27
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Cords	E-39

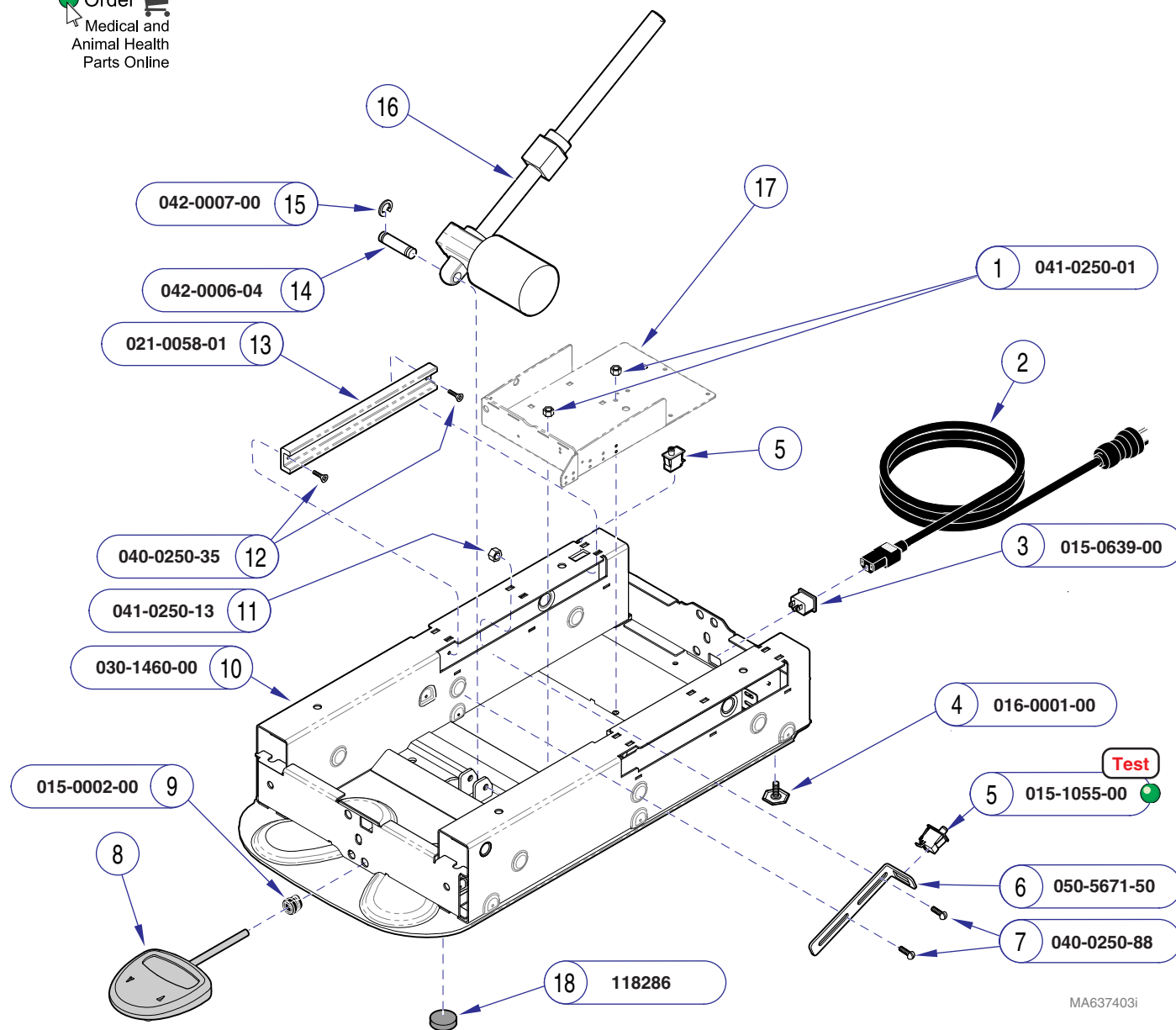
Item	Description	Qty.
1	Nut	2
2	Refer to: "Power Cords"	1
3	IEC Inlet	1
4	Leveling Screw	2
5	Limit Switch	2
6	Limit Switch Bracket	1
7	Screw	2
8	Refer to: "Foot Control"	Ref
9	Strain Relief Bushing	1
10	Base Weldment	1
11	Nut	2
12	Flat Head Screw	4
13	Slide	2
14	Clevis Pin	1
15	E-Ring	2
16	Refer to: "Base Actuator"	Ref
17	Refer to: "PC board Enclosure"	Ref
18	Non-Skid Pad	2

Always Specify Model & Serial Number

Models:

Serial Numbers:	222 (-001 thru -010)	
	RG1000 thru RG1123	RH1000 thru RH1386
	RJ1000 thru RJ1094	RL1000 (one table)
	RK1000 thru RK1266	RM1000 (one table)

Ritter Base
Components



MA637403i

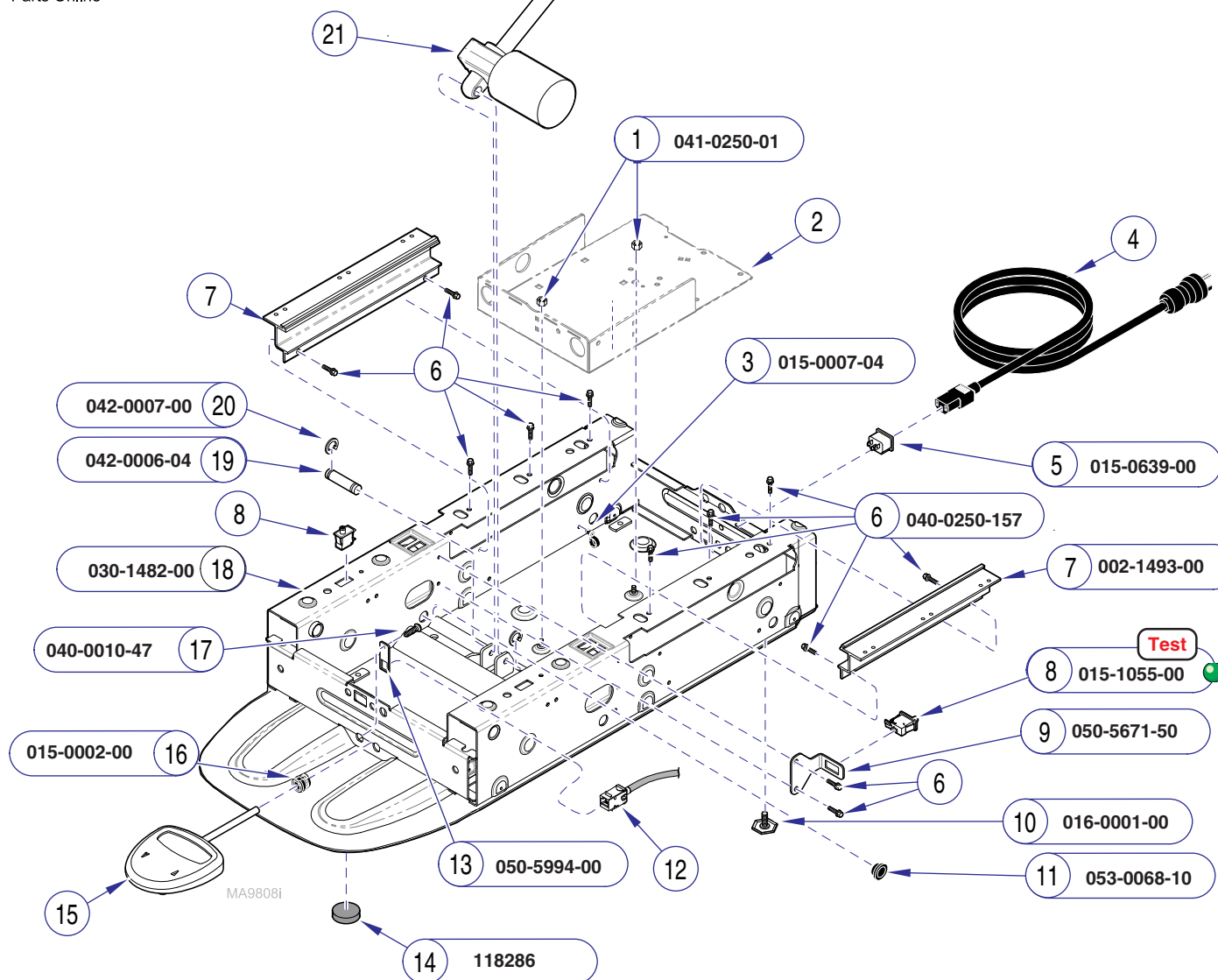
Refer To:

Go To Page:

Limit Switch Test	B-5
Foot Control:	
222 / 622	E-27
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Cords	E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "Power Cords"	1
3	IEC Inlet	1
4	Leveling Screw	2
5	Limit Switch	2
6	Limit Switch Bracket	1
7	Screw	2
8	Refer to: "Foot Control"	Ref
9	Strain Relief Bushing	1
10	Base Weldment	1
11	Nut	2
12	Flat Head Screw	4
13	Slide	2
14	Clevis Pin	1
15	E-Ring	2
16	Refer to: "Base Actuator"	Ref
17	Refer to: "PC board Enclosure"	Ref
18	Non-Skid Pad	2

Always Specify Model & Serial Number



Refer To:

Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
223	E-28*
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

* multiple pages due to model / serial # break

Go To Page:

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	IEC Inlet	1
6	Screw	12
7	Kit, Scissor Rollers	1
8	Limit Switch	2
9	Limit Switch Bracket	1
10	Leveling Screw	2
11	Snap Bushing	1
12	Foot Control Inlet Harness (223 only) Ref: Wiring Diagrams for PN	Ref
13	Modular Plug Adapter Plate (223 only)	1
14	Non-Skid Pad	2
15	Refer to: "Foot Control"	Ref
16	Strain Relief Bushing (222 only)	1
17	Screw (223 only)	1
18	Base Weldment	1
19	Clevis Pin	1
20	E-Ring	2
21	Refer to: "Base Actuator"	Ref
Always Specify Model & Serial Number		

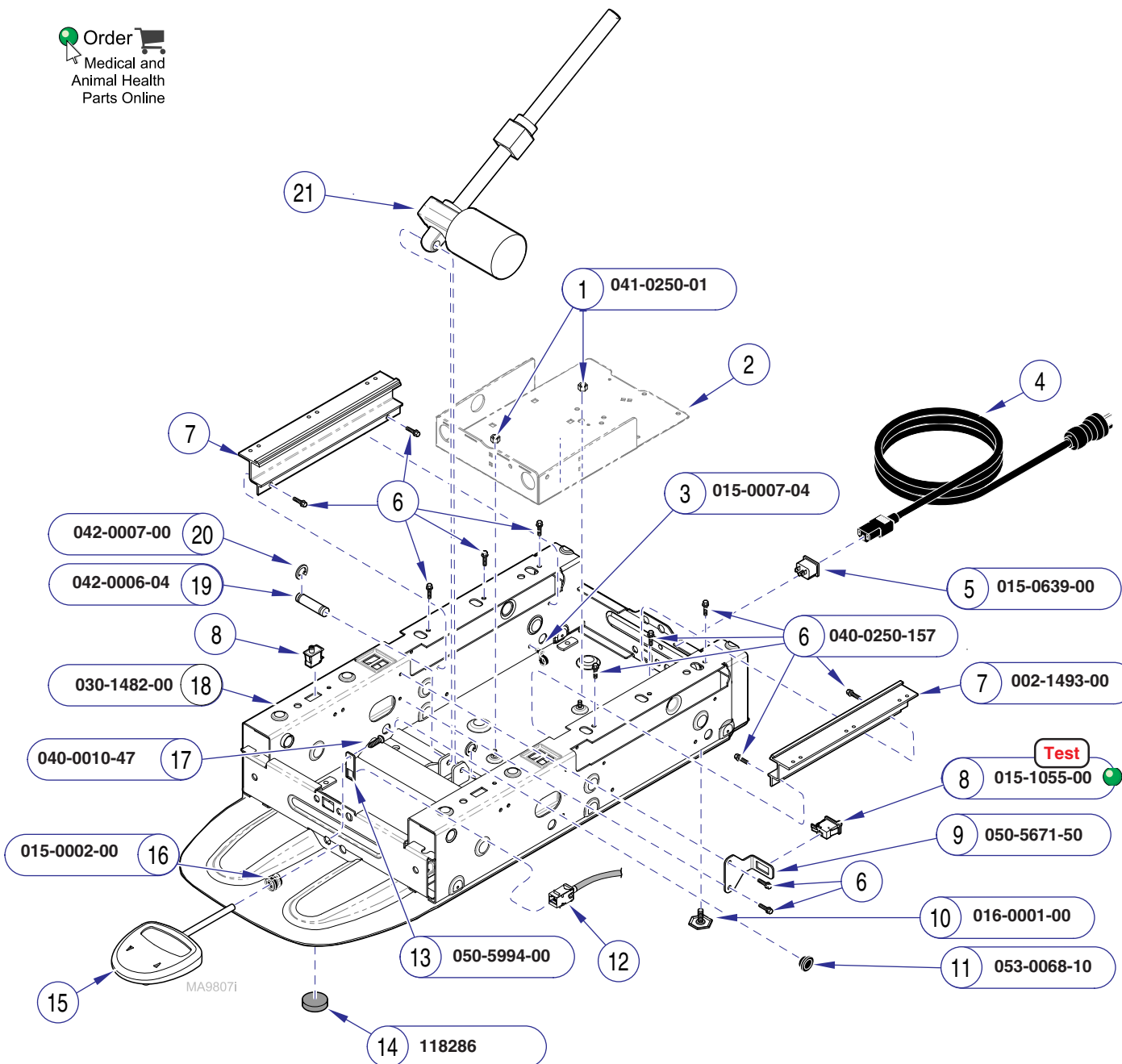
Models:

222 (-001 thru -014)	223 (-001 thru -014)
RG1531 thru present	RH1822 thru RH1830
RJ1313 thru present	RH1833 thru present
RL1061 thru present	RM1016 thru present
RK1335 thru present	V2200 thru V58430

SC1000 thru present	SD1000 thru present
SE1000 thru present	SF1000 thru present
V2200 thru V58430	

**Ritter Base
Components**

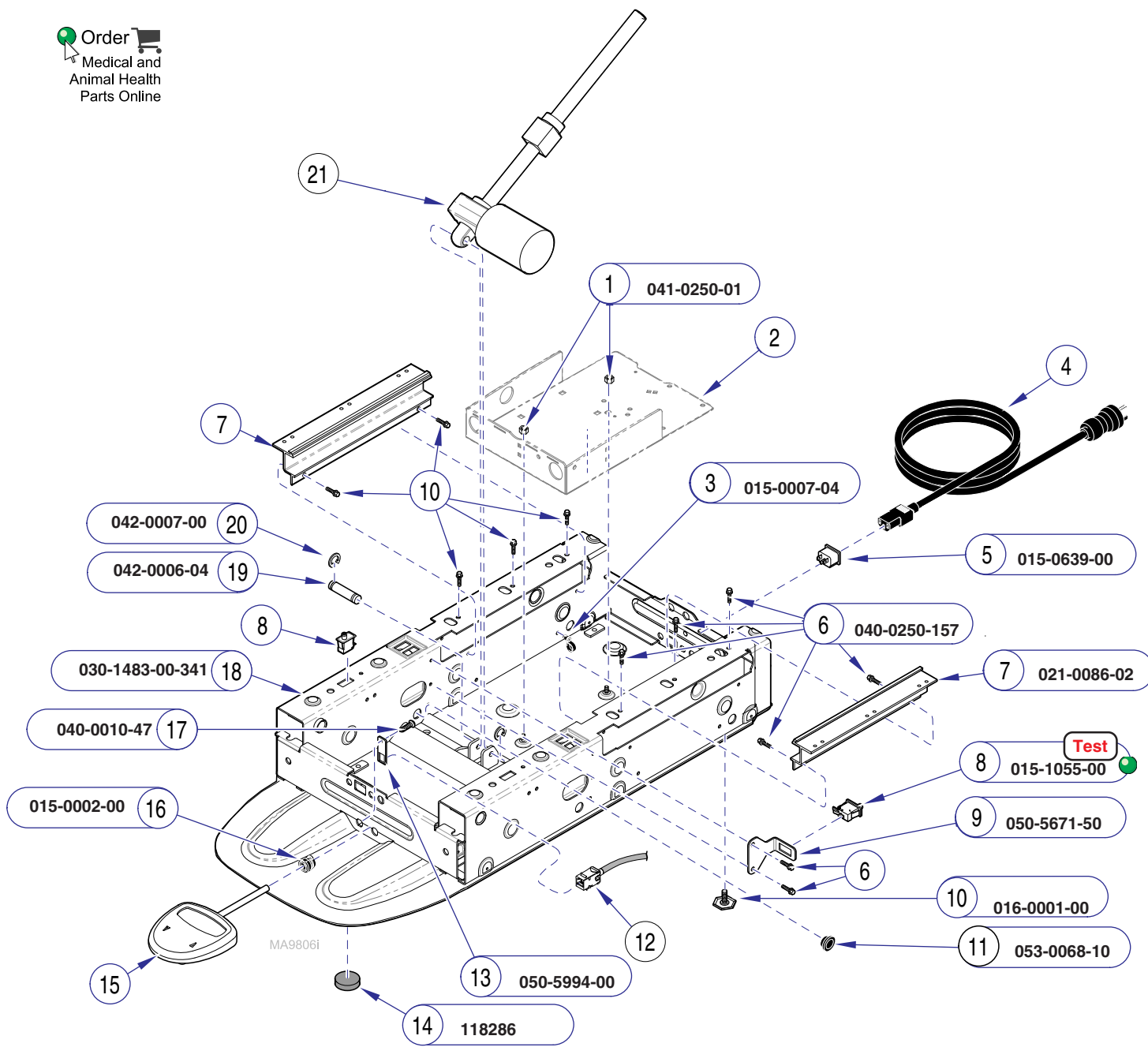
E-20.2



Refer To:	Go To Page:
Limit Switch Test Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
223	E-28.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	IEC Inlet	1
6	Screw	12
7	Kit, Scissor Rollers	1
8	Limit Switch	2
9	Limit Switch Bracket	1
10	Leveling Screw	2
11	Snap Bushing	1
12	Foot Control Inlet Harness (223 only) Ref: Wiring Diagrams for PN	Ref
13	Modular Plug Adapter Plate (223 only)	1
14	Non-Skid Pad	2
15	Refer to: "Foot Control"	Ref
16	Strain Relief Bushing (222 only)	1
17	Screw (223 only)	1
18	Base Weldment	1
19	Clevis Pin	1
20	E-Ring	2
21	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number



Refer To:

Go To Page:

Limit Switch Test	Test	B-5
Wiring Diagrams		D-1
Foot Control:		
222 / 622		E-27
223		E-28.1
Base Actuator		E-22
PC Board Enclosure:		
Manual Back models		E-23
Power Back models		E-24
Power Cords		E-39

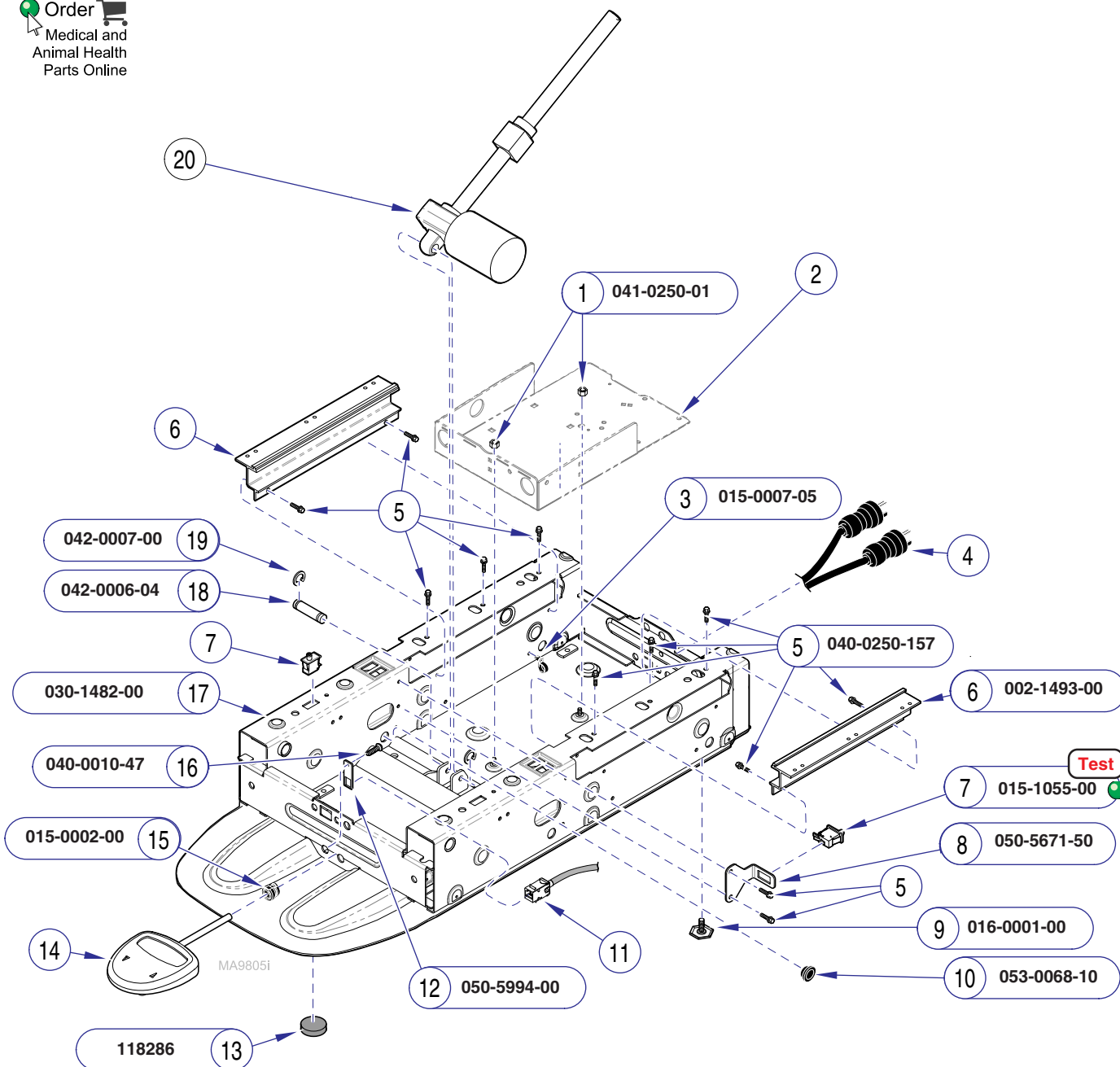
Item	Description	Qty.
1	Nut	
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	IEC Inlet	1
6	Screw	12
7	Slide Extrusion	2
8	Limit Switch	2
9	Limit Switch Bracket	1
10	Leveling Screw	2
11	Snap Bushing	1
12	Foot Control Inlet Harness (223 only)	
	Ref: Wiring Diagrams for PN	Ref
13	Modular Plug Adapter Plate (223 only)	1
14	Non-Skid Pad	2
15	Refer to: "Foot Control"	Ref
16	Strain Relief Bushing (222 only)	1
17	Screw (223 only)	1
18	Base Weldment	1
19	Clevis Pin	1
20	E-Ring	2
21	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

Models:	222 (-001 thru -014)	222 (-017)	223 (-001 thru -014)
Serial Numbers:	V1158422 thru V1182653	V1158422 thru V1182653	V1158422 thru V1182653

**Ritter Base
Components**

E-20.4



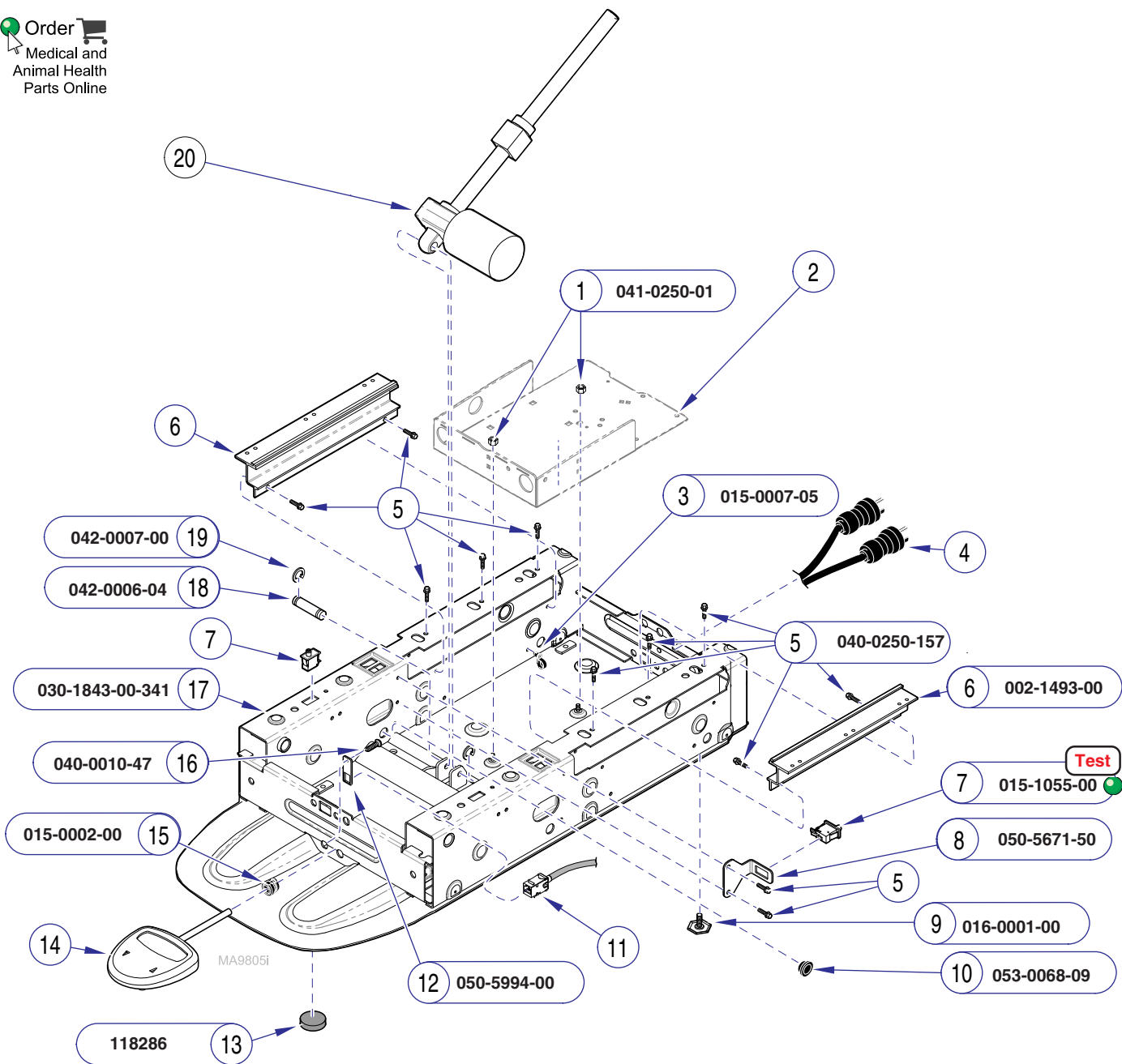
Refer To:

Go To Page:

Limit Switch Test	Test	B-5
Wiring Diagrams		D-1
Foot Control:		
222 / 622		E-27
223		E-28.1
Base Actuator		E-22
PC Board Enclosure:		
Manual Back models		E-23
Power Back models		E-24
Power Cords		E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	Screw	12
6	Kit, Scissor Roller	1
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Foot Control Inlet Harness (223 Only) Ref: Wiring Diagrams for PN	Ref
12	Modular Plug Adapter Plate (223 only)	1
13	Non-Skid Pad	2
14	Refer to: "Foot Control"	Ref
15	Strain Relief Bushing (222 only)	1
16	Screw (223 only)	1
17	Base Weldment	1
18	Clevis Pin	1
19	E-Ring	2
20	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number



Refer To:

Go To Page:

Limit Switch Test	Test	B-5
Wiring Diagrams		D-1
Foot Control:		
222 / 622		E-27
223		E-28.1
Base Actuator		E-22
PC Board Enclosure:		
Manual Back models		E-23
Power Back models		E-24
Power Cords		E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	Screw	12
6	Kit, Scissor Rollers	1
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Foot Control Inlet Harness (223 Only) Ref: Wiring Diagrams for PN	Ref
12	Modular Plug Adapter Plate (223 only)	1
13	Non-Skid Pad	2
14	Refer to: "Foot Control"	Ref
15	Strain Relief Bushing (222 only)	1
16	Screw (223 only)	1
17	Base Weldment	1
18	Clevis Pin	1
19	E-Ring	2
20	Refer to: "Base Actuator"	Ref

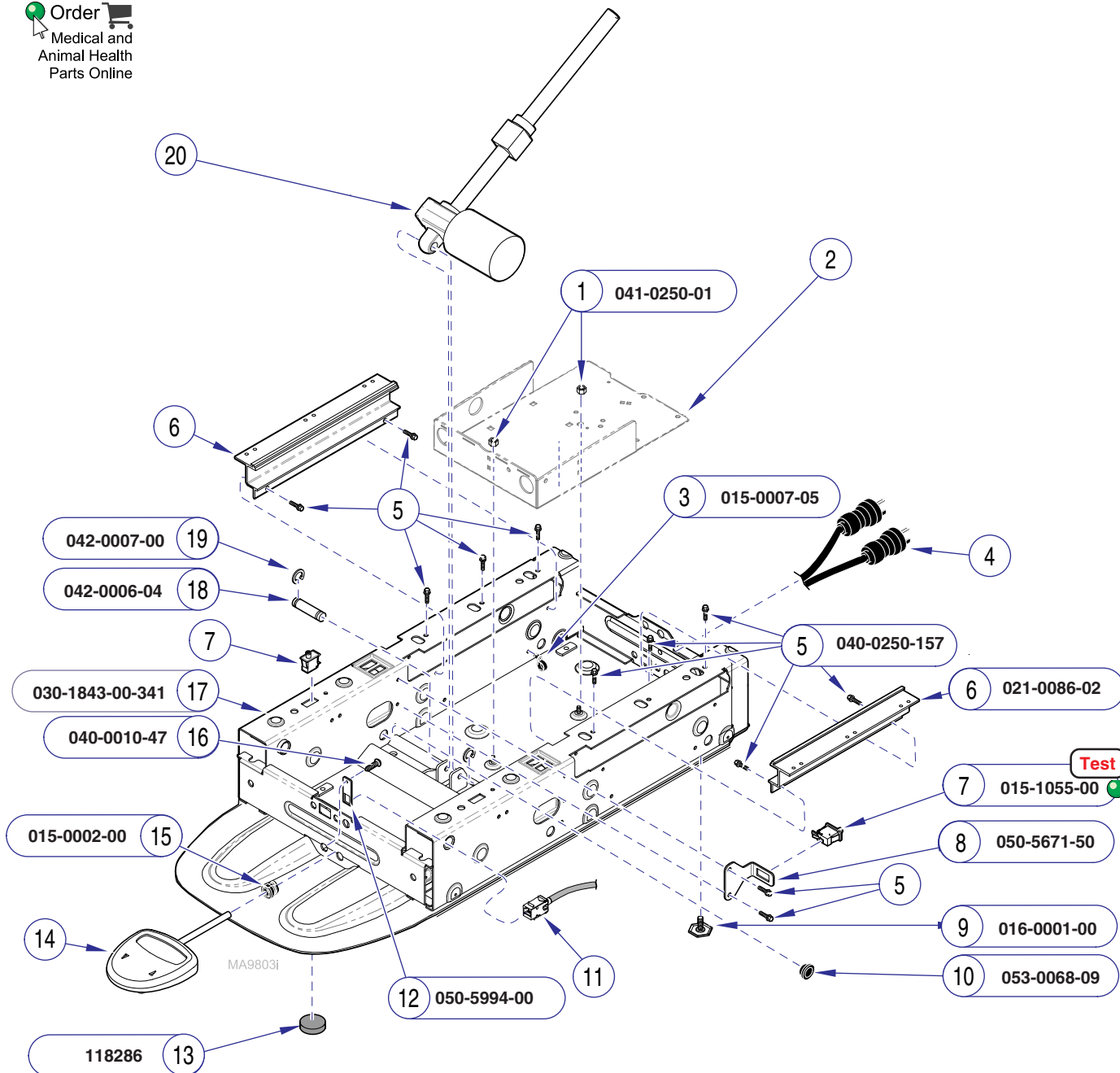
Always Specify Model & Serial Number

Models: 222 (-015 & -016)
Serial Numbers: V798446 thru V1158421

223 (-015 & -016)
V798446 thru V1158421

Ritter Base
Components

E-20.6



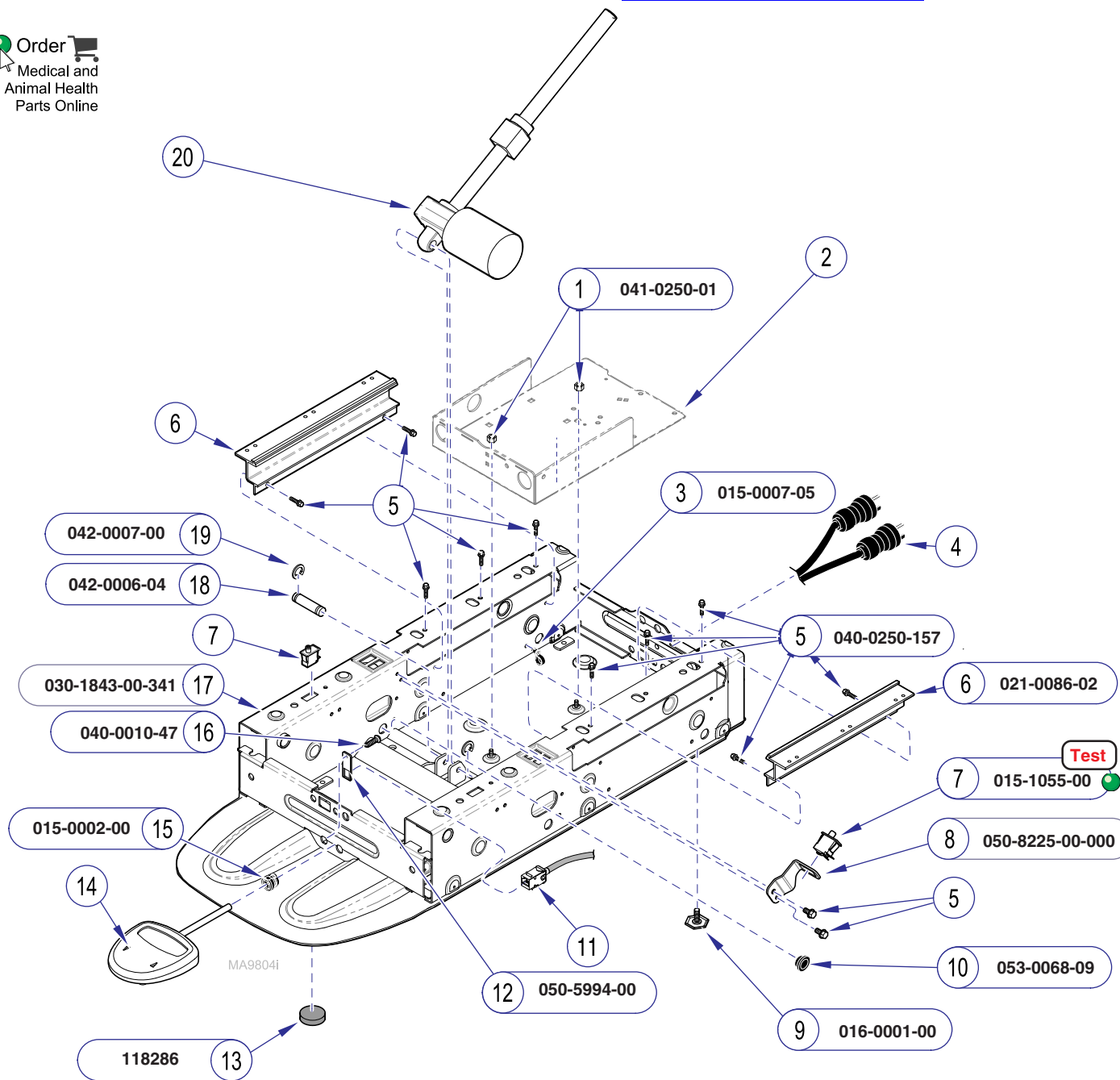
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Go To Page:

Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
223	E-28.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	Screw	12
6	Slide Extrusion	2
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Foot Control Inlet Harness (223 Only) Ref: Wiring Diagrams for PN	Reff
12	Modular Plug Adapter Plate (223 only)	1
13	Non-Skid Pad	2
14	Refer to: "Foot Control"	Ref
15	Strain Relief Bushing (222 only)	1
16	Screw (223 only)	1
17	Base Weldment	1
18	Clevis Pin	1
19	E-Ring	2
20	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number



Refer To:

Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
223	E-28.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

Go To Page:

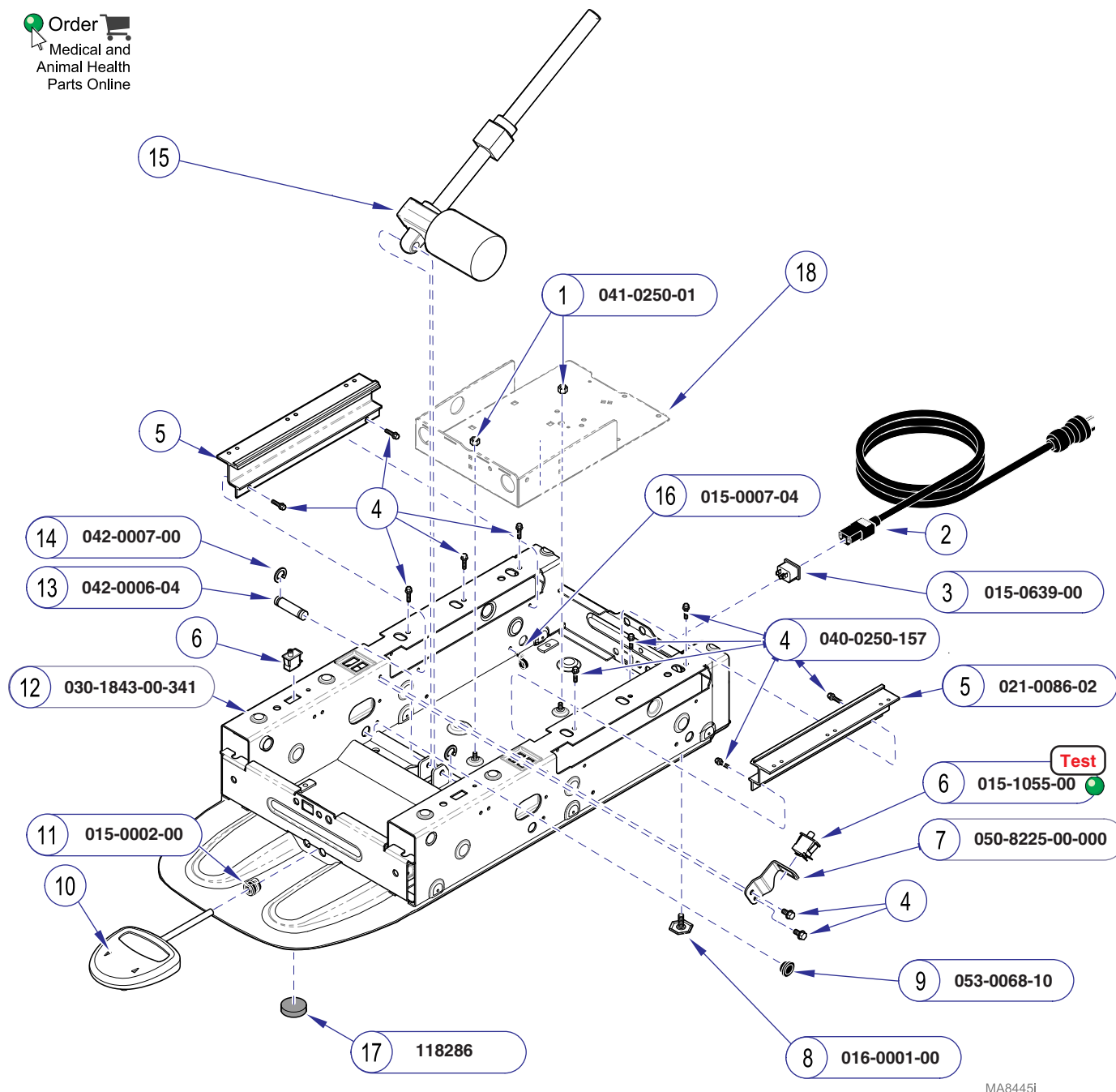
Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	1
5	Screw	12
6	Slide Extrusion	2
7	Limit Switch	2
8	Limit Switch Bracket	1
9	Leveling Screw	2
10	Snap Bushing	1
11	Foot Control Inlet Harness (223 Only) Ref: Wiring Diagrams for PN	Ref
12	Modular Plug Adapter Plate (223 only)	1
13	Non-Skid Pad	2
14	Refer to: "Foot Control"	Ref
15	Strain Relief Bushing (222 only)	1
16	Screw (223 only)	1
17	Base Weldment	1
18	Clevis Pin	1
19	E-Ring	2
20	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

Models:
Serial Numbers: **222 (-016)** V1182654 thru Present | **223 (-016)** V1182654 thru Present

**Ritter Base
Components**

E-20.8



MA8445i

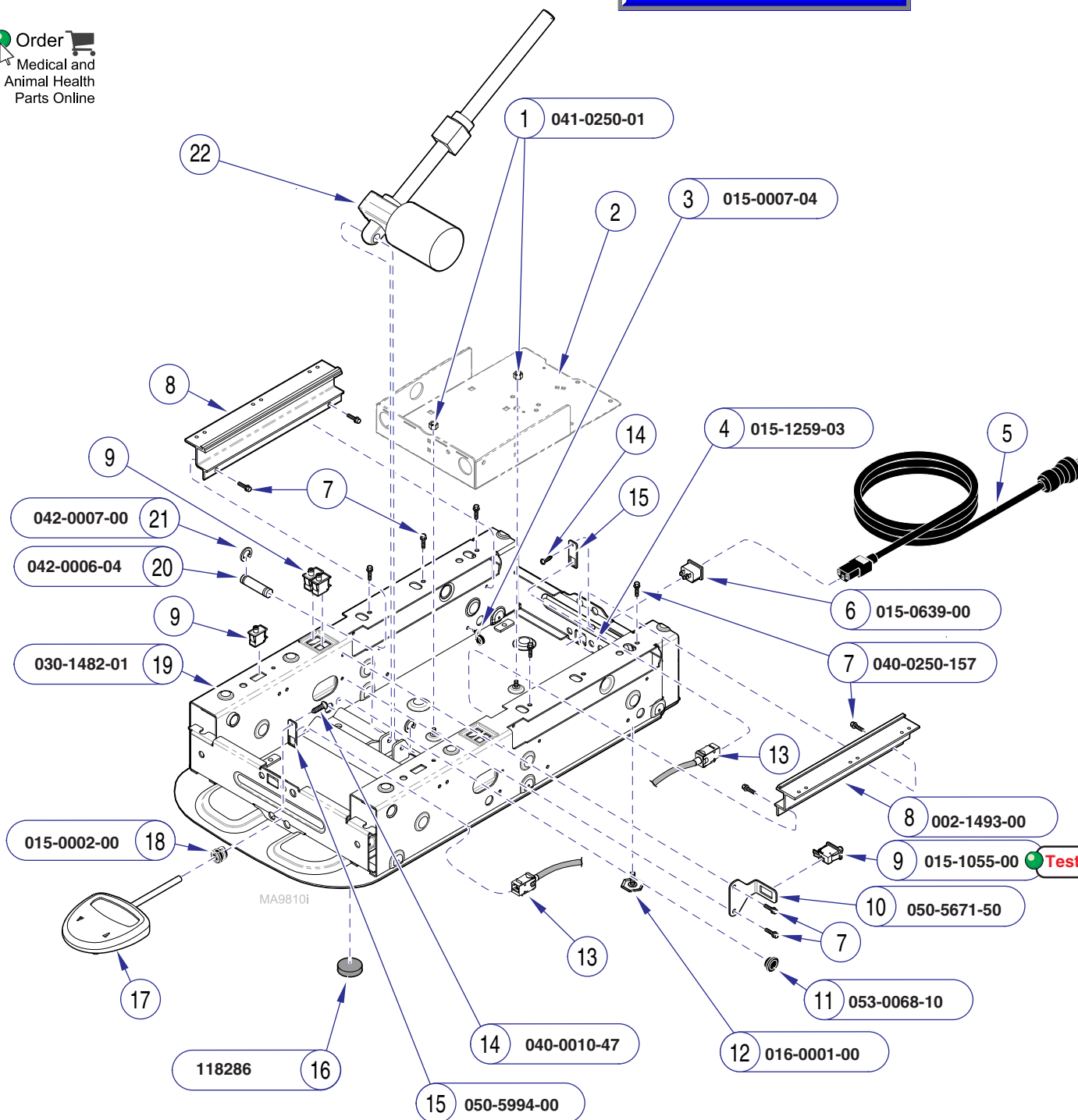
Refer To:

Limit Switch Test	B-5
Section D - Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
223	E-28.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "Power Cords"	1
3	IEC Inlet	1
4	Screw	12
5	Slide Extrusion	2
6	Limit Switch	2
7	Limit Switch Bracket	1
8	Leveling Screw	2
9	Snap Bushing	1
10	Refer to: "Foot Control"	Ref
11	Strain Relief Bushing	1
12	Base Weldment	1
13	Clevis Pin	1
14	E-Ring	2
15	Refer to: "Base Actuator"	Ref
16	Wrap-N-Tap Wire Clamp	3
17	Non-Skid Pad	2
18	Refer to: "PC board Enclosure"	Ref

Always Specify Model & Serial Number

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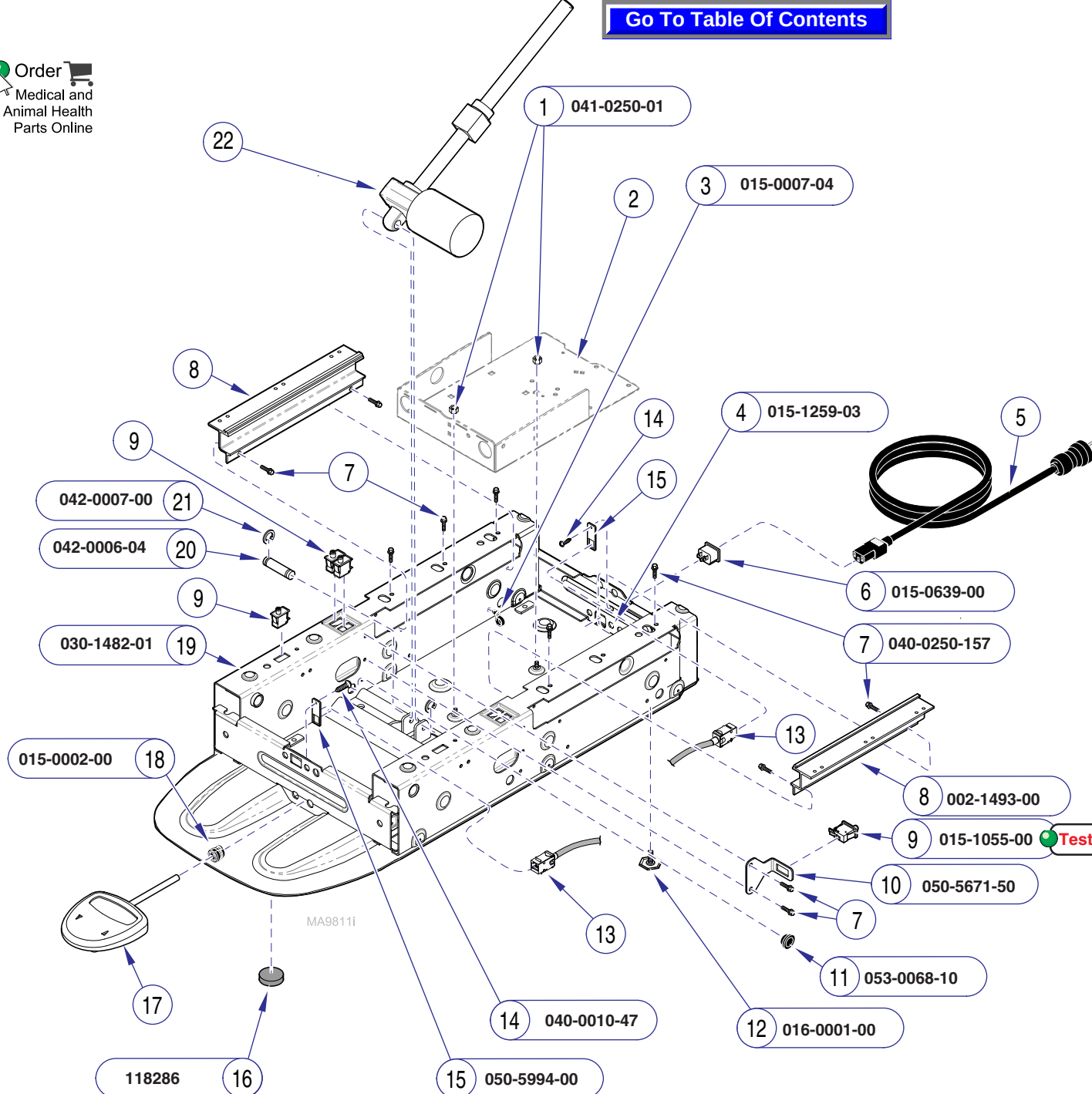
Limit Switch	Test	E-5
Wiring Diagrams		D-1
Foot Control:		
222 / 622		E-27
623		E-29*
Base Actuator		E-22
PC Board Enclosure:		
Manual Back models		E-23
Power Back models		E-24
Power Cords		E-39

* multiple pages due to model / serial # break

Go To Page:

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Fuseholder (622 & 623-003/-004)	2
5	Refer to: "Power Cords"	Ref
6	IEC Inlet	1
7	Screw	12
8	Kit, Scissor Rollers	1
9	Limit Switch	4
10	Limit Switch Bracket	1
11	Snap Bushing	1
12	Leveling Screw	2
13	Foot Control Inlet Harness Ref: <i>Wiring Diagrams for PN</i>	Ref
14	Screw (622)	1
	Screw (623)	2
15	Modular Plug Adapter Plate (622)	1
	Modular Plug Adapter Plate (623)	2
16	Non-Skid Pad	2
17	Refer to: "Foot Control"	Ref
18	Strain Relief Bushing (622 only)	1
19	Base Weldment	1
20	Clevis Pin	1
21	E-Ring	2
22	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number



Refer To:

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Limit Switch Test.....	Test	B-5
Wiring Diagrams		D-1
Foot Control:		
222 / 622		E-27
623		E-29.1
Base Actuator		E-22
PC Board Enclosure:		
Manual Back models		E-23
Power Back models		E-24
Power Cords		E-39

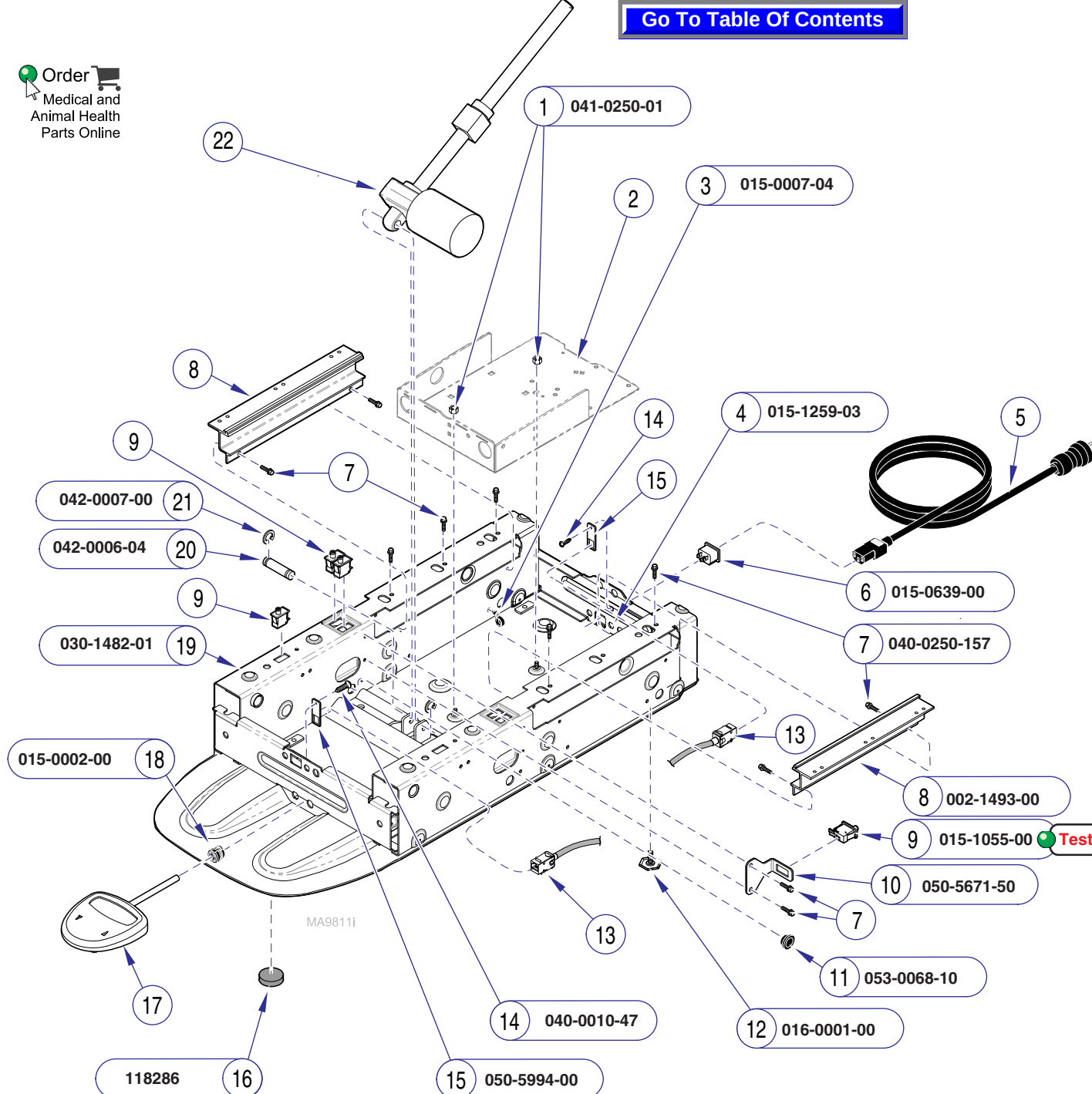
Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Fuseholder (622 & 623-003/-004)	2
5	Refer to: "Power Cords"	Ref
6	IEC Inlet	1
7	Screw	12
8	Kit, Scissor Rollers	1
9	Limit Switch	4
10	Limit Switch Bracket	1
11	Snap Bushing	1
12	Leveling Screw	2
13	Foot Control Inlet Harness (622 & 623) Ref: <i>Wiring Diagrams for PN</i>	Ref
14	Screw (622)	1
15	Screw (623)	2
16	Modular Plug Adapter Plate (622)	1
17	Modular Plug Adapter Plate (623)	2
18	Non-Skid Pad	2
19	Refer to: "Foot Control"	Ref
20	Strain Relief Bushing (622 only)	1
21	Base Weldment	1
22	Clevis Pin	1
23	E-Ring	2
24	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

Models: 622 (-001 thru -006) 623 (-001 thru -006) 623 (-009 & -010)
Serial Numbers: V58464 thru V1158421 V58464 thru V1158421 V58464 thru V1158421

**Midmark Base
Components**

E-21.1



Refer To:

Go To Page:

Limit Switch Test	Test	B-5
Wiring Diagrams		D-1
Foot Control:		
222 / 622		E-27
623		E-29.1
Base Actuator		E-22
PC Board Enclosure:		
Manual Back models		E-23
Power Back models		E-24
Power Cords		E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Fuseholder (622 & 623-003/-004)	2
5	Refer to: "Power Cords"	Ref
6	IEC Inlet	1
7	Screw	12
8	Kit, Scissor Rollers	1
9	Limit Switch	4
10	Limit Switch Bracket	1
11	Snap Bushing	1
12	Leveling Screw	2
13	Foot Control Inlet Harness Ref: Wiring Diagrams for PN	Ref
14	Screw (622)	1
15	Screw (623)	2
16	Modular Plug Adapter Plate (622)	1
17	Modular Plug Adapter Plate (623)	2
18	Non-Skid Pad	2
19	Refer to: "Foot Control"	Ref
20	Strain Relief Bushing (622 only)	1
21	Base Weldment	1
22	Clevis Pin	1
23	E-Ring	2
24	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

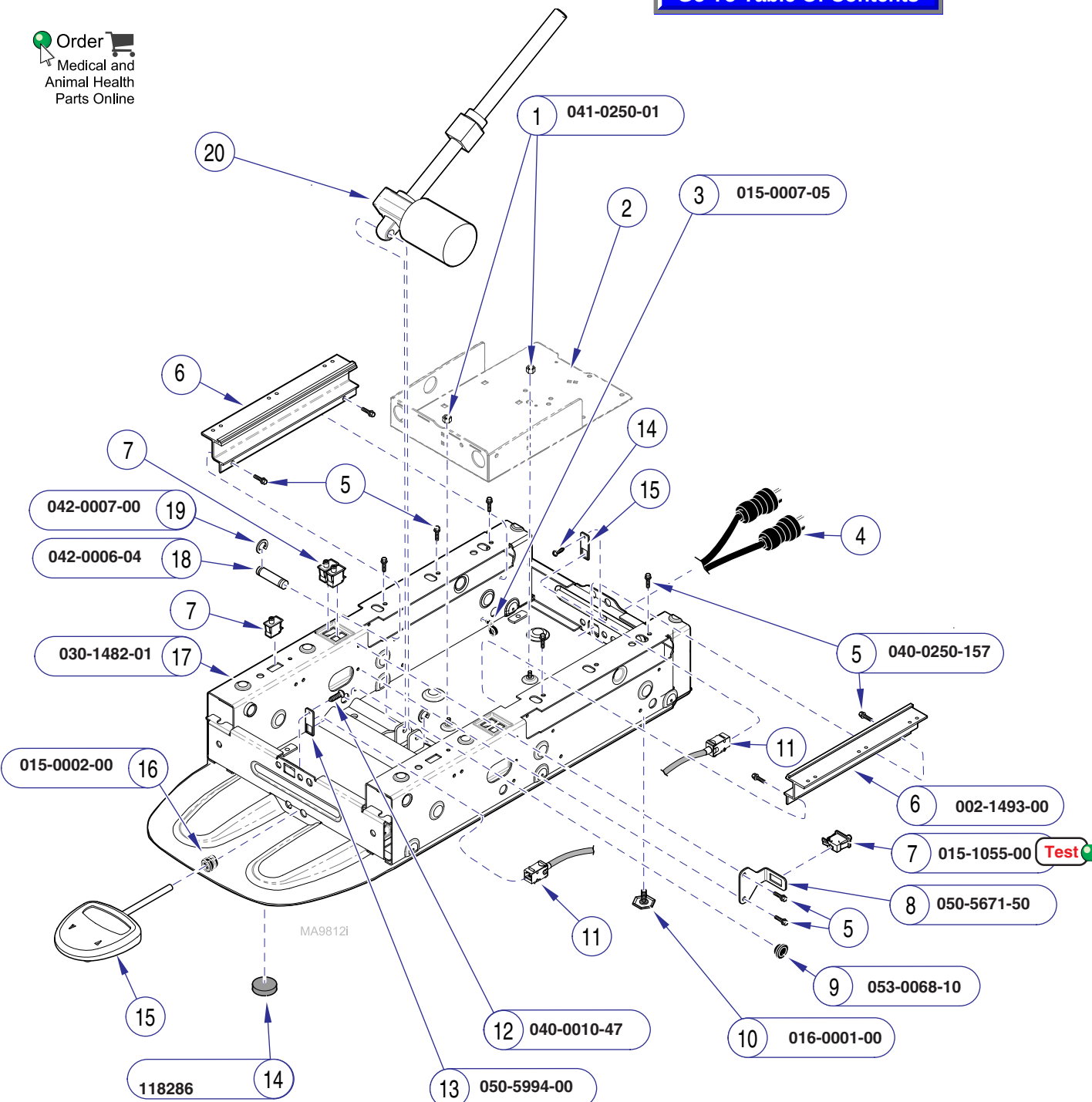
Midmark Base Components

Models: 622 (-001 thru -006) | 623 (-001 thru -006) | 623 (-009 & -010)
Serial Numbers: V1158422 thru V1182653 | V1158422 thru V1182653 | V1158422 thru V1182653

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Refer To:

Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
623	E-29.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39



Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	Ref
5	Screw	12
6	Kit, Scissor Rollers	1
7	Limit Switch	4
8	Limit Switch Bracket	1
9	Snap Bushing	1
10	Leveling Screw	2
11	Foot Control Inlet Harness (622 & 623)	Ref
12	Refer to: "Wiring Diagrams for PN"	Ref
13	Screw (622)	1
14	Screw (623)	2
15	Modular Plug Adapter Plate (622)	1
16	Modular Plug Adapter Plate (623)	2
17	Non-Skid Pad	2
18	Refer to: "Foot Control"	Ref
19	Strain Relief Bushing (622 only)	1
20	Base Weldment	1
21	Clevis Pin	1
22	E-Ring	2
23	Refer to: "Base Actuator"	Ref

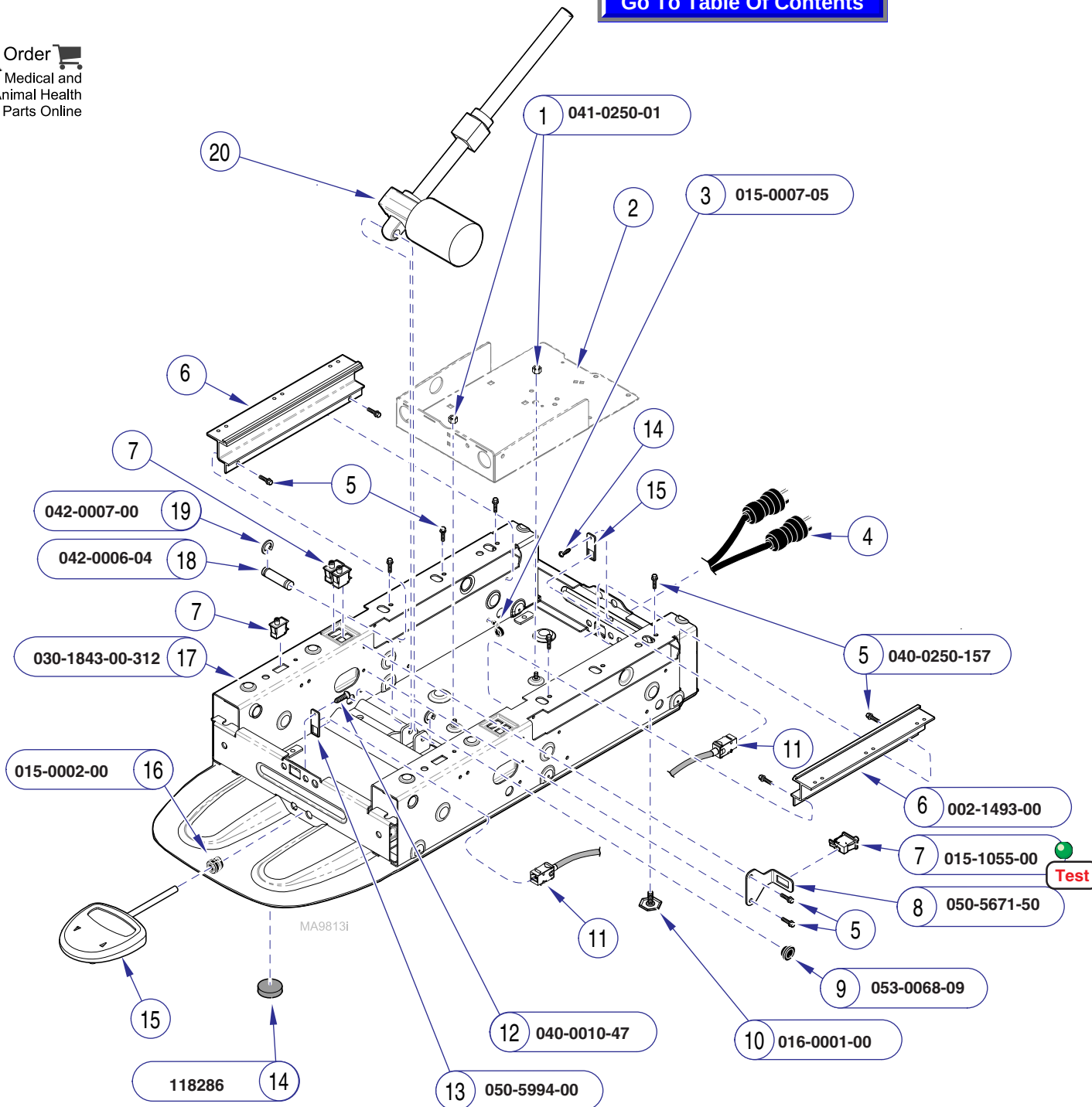
Always Specify Model & Serial Number

**Midmark Base
Components**

Models:
Serial Numbers:

622 (-007 & -008)
V58464 thru V798445

623 (-007 & -008)
V58464 thru V798445



Refer To:

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Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
623	E-29.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

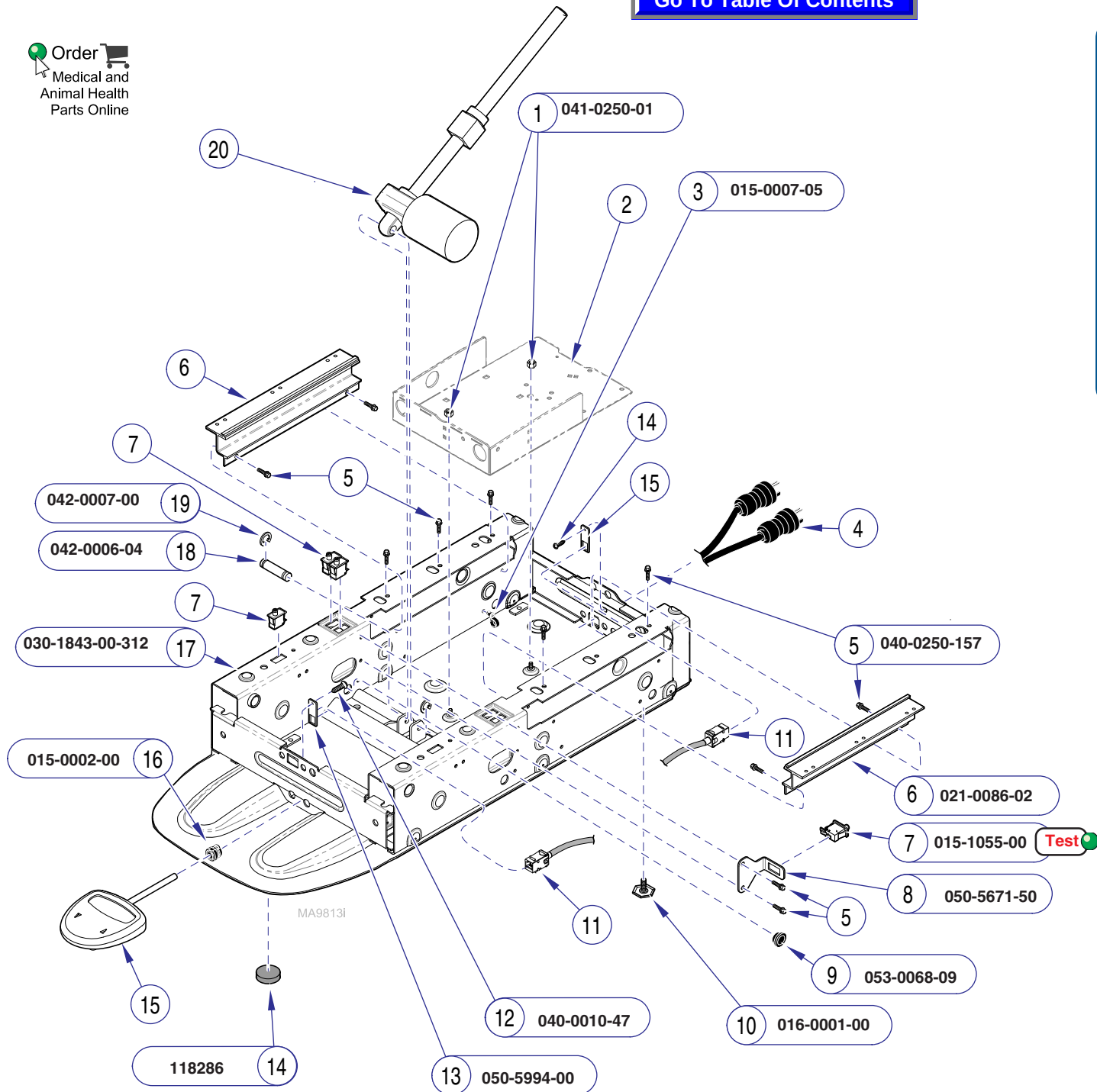
Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	Ref
5	Screw	12
6	Kit, Scissor Rollers	1
7	Limit Switch	4
8	Limit Switch Bracket	1
9	Snap Bushing	1
10	Leveling Screw	2
11	Foot Control Inlet Harness	
	Ref: Wiring Diagrams for PN	Ref
12	Screw (622)	1
	Screw (623)	2
13	Modular Plug Adapter Plate (622)	1
	Modular Plug Adapter Plate (623)	2
14	Non-Skid Pad	2
15	Refer to: "Foot Control"	Ref
16	Strain Relief Bushing (622 only)	1
17	Base Weldment	1
18	Clevis Pin	1
19	E-Ring	2
20	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

Models: **622 (-007 & -008)** **623 (-007 & -008)**
Serial Numbers: V798446 thru V1158421 V798446 thru V1158421

**Midmark Base
Components**

E-21.4



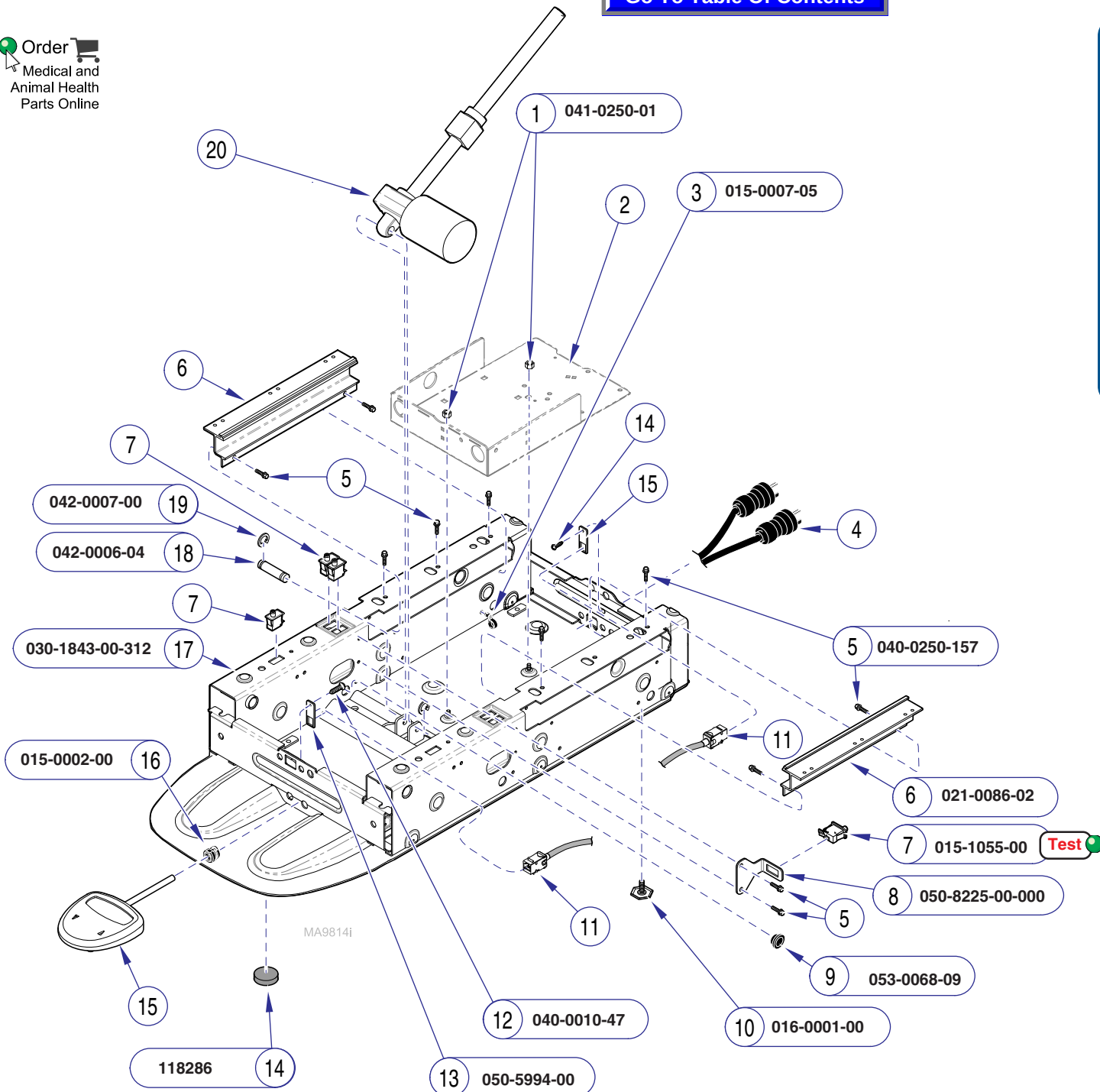
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Go To Page:

Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
623	E-29.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	Ref
5	Screw	12
6	Kit, Scissor Rollers	1
7	Limit Switch	4
8	Limit Switch Bracket	1
9	Snap Bushing	1
10	Leveling Screw	2
11	Foot Control Inlet Harness (622 & 623) Ref: Wiring Diagrams for PN	Ref
12	Screw (622)	1
	Screw (623)	2
13	Modular Plug Adapter Plate (622)	1
	Modular Plug Adapter Plate (623)	2
14	Non-Skid Pad	2
15	Refer to: "Foot Control"	Ref
16	Strain Relief Bushing (622 only)	1
17	Base Weldment	1
18	Clevis Pin	1
19	E-Ring	2
20	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number



Refer To:

Go To Page:

Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
222 / 622	E-27
623	E-29.1
Base Actuator	E-22
PC Board Enclosure:	
Manual Back models	E-23
Power Back models	E-24
Power Cords	E-39

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Refer to: "Power Cords"	Ref
5	Screw	12
6	Kit, Scissor Rollers	1
7	Limit Switch	4
8	Limit Switch Bracket	1
9	Snap Bushing	1
10	Leveling Screw	2
11	Foot Control Inlet Harness (622 & 623))	
12	Ref: <i>Wiring Diagrams for PN</i>	Ref
13	Screw (622)	1
14	Screw (623)	2
15	Modular Plug Adapter Plate (622)	1
16	Modular Plug Adapter Plate (623)	2
17	Non-Skid Pad	2
18	Refer to: "Foot Control"	Ref
19	Strain Relief Bushing (622 only)	1
20	Base Weldment	1
21	Clevis Pin	1
22	E-Ring	2
23	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

Models: 623 (-008)
Serial Numbers: V1182654 thru Present

**Midmark Base
Components**

E-21.6



Limit Switch Test	B-5
Wiring Diagrams	D-1
Foot Control:	
<i>222 / 622</i>	E-27
<i>623</i>	E-29.1
Base Actuator	E-22
PC Board Enclosure:	
<i>Manual Back models</i>	E-23
<i>Power Back models</i>	E-24
Power Cords	E-39

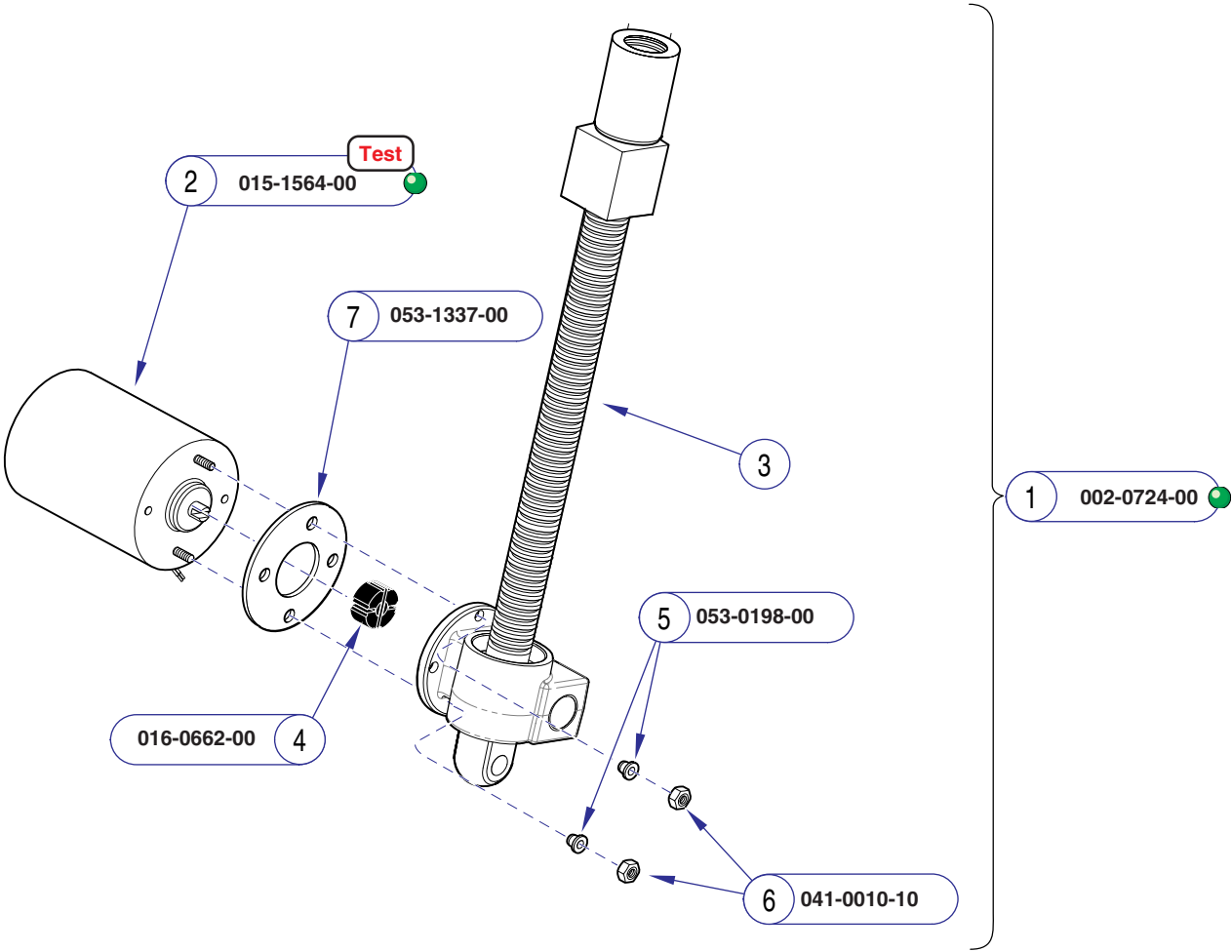
Go To Page:

Item	Description	Qty.
1	Nut	2
2	Refer to: "PC board Enclosure"	Ref
3	Wrap-N-Tap Wire Clamp	3
4	Fuseholder (622 & 623-003/-004)	2
5	Refer to: "Power Cords"	Ref
6	IEC Inlet	1
7	Screw	12
8	Kit, Scissor Rollers	1
9	Limit Switch	4
10	Limit Switch Bracket	1
11	Snap Bushing	1
12	Leveling Screw	2
13	Foot Control Inlet Harness (622 & 623) Ref: <i>Wiring Diagrams for PN</i>	Ref
14	Screw (622)	1
	Screw (623)	2
15	Modular Plug Adapter Plate (622)	1
	Modular Plug Adapter Plate (623)	2
16	Non-Skid Pad	2
17	Refer to: "Foot Control"	Ref
18	Strain Relief Bushing (622 only)	1
19	Base Weldment	1
20	Clevis Pin	1
21	E-Ring	2
22	Refer to: "Base Actuator"	Ref

Always Specify Model & Serial Number

Midmark Base Components

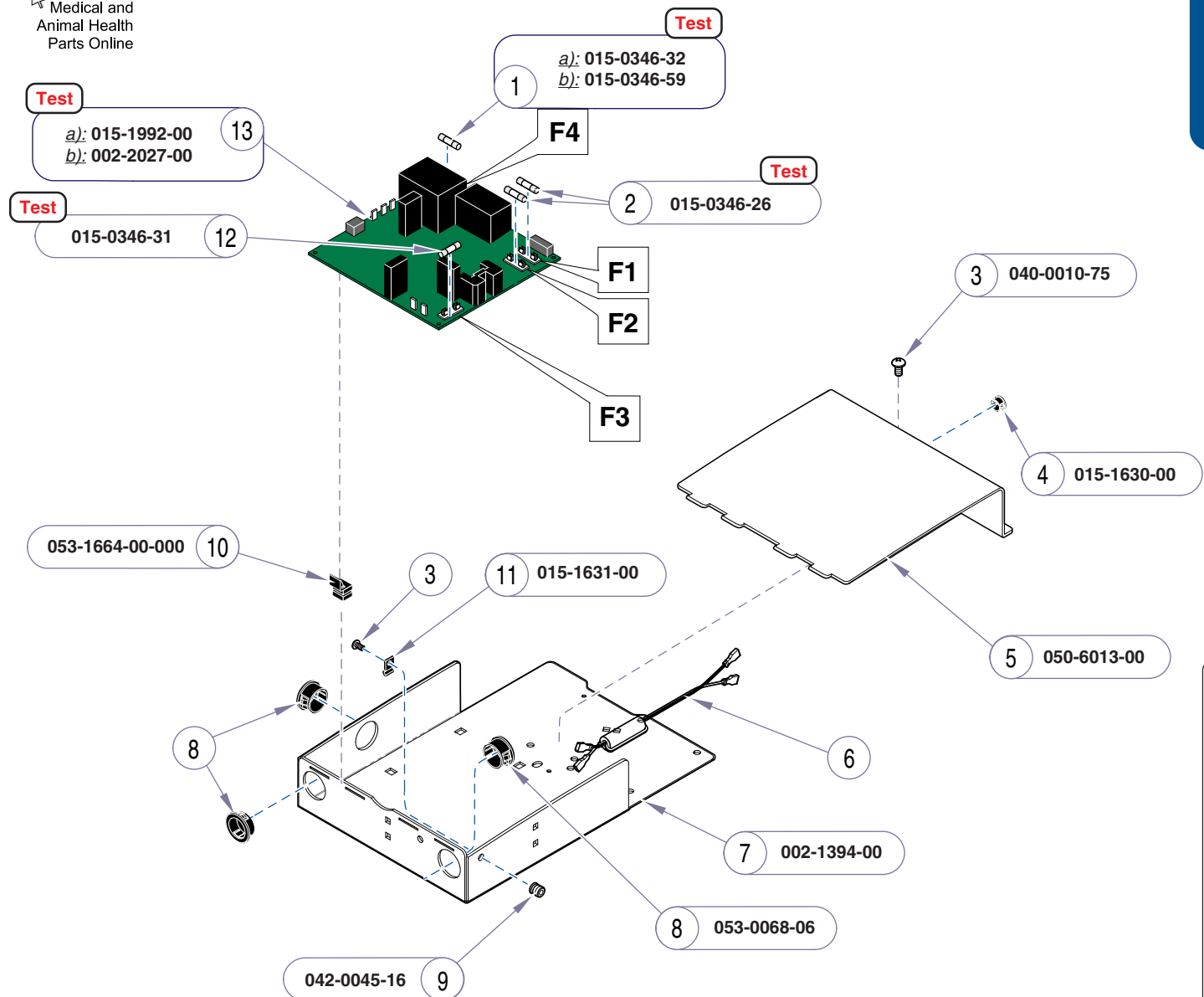
Models: 623 (-009 thru -011)
Serial Numbers: V1182654 thru Present



Item	Description	Qty.
1	Actuator Assembly Kit (includes items 2 thru 6)	1
2	• Motor	1
3	• Ball Screw Asm. (not available separately)	1
4	• Coupler	1
5	• Shoulder Washer	2
6	• Nut	2
7	• Isolator	1

Always Specify Model & Serial Number

MA610900i



Refer To:

Go To Page:

Fuse **Test** B-3
Main PC Board **Test** B-21
Section D - Wiring Diagrams D-1

Item	Description	Qty.
1	a) Slo-blo Fuse (.18 A, 250v, .25" x 1.25")	1
	b) Slo-blo Fuse (Export) (.30 A, 250v, .25" x 1.25")	1
2	Slo-blo Fuse (10 amp, 250v, .25" x 1.25") ..	2
3	Screw (10-24 x 3/8")	2
4	Split Grommet (older models only)	1
5	Cover	1
6	Refer to: Section D - Wiring Diagrams	Ref
7	Control Panel Housing Kit	1
8	Bushing	3
9	Nutsert	2
10	PC Board Standoff	7
11	Cable Clamp	1
12	Slo-blo Fuse (5 amp, 250v, .25" x 1.25") ...	1
13	a) PC Board (1 function)	1
	b) PC Board (1 function) (Export)	1
	(export PC Board includes item #10)	

Always Specify Model & Serial Number

MA9949I

PC Board Enclosure
(Manual Back Models)

Models:
Serial Numbers:

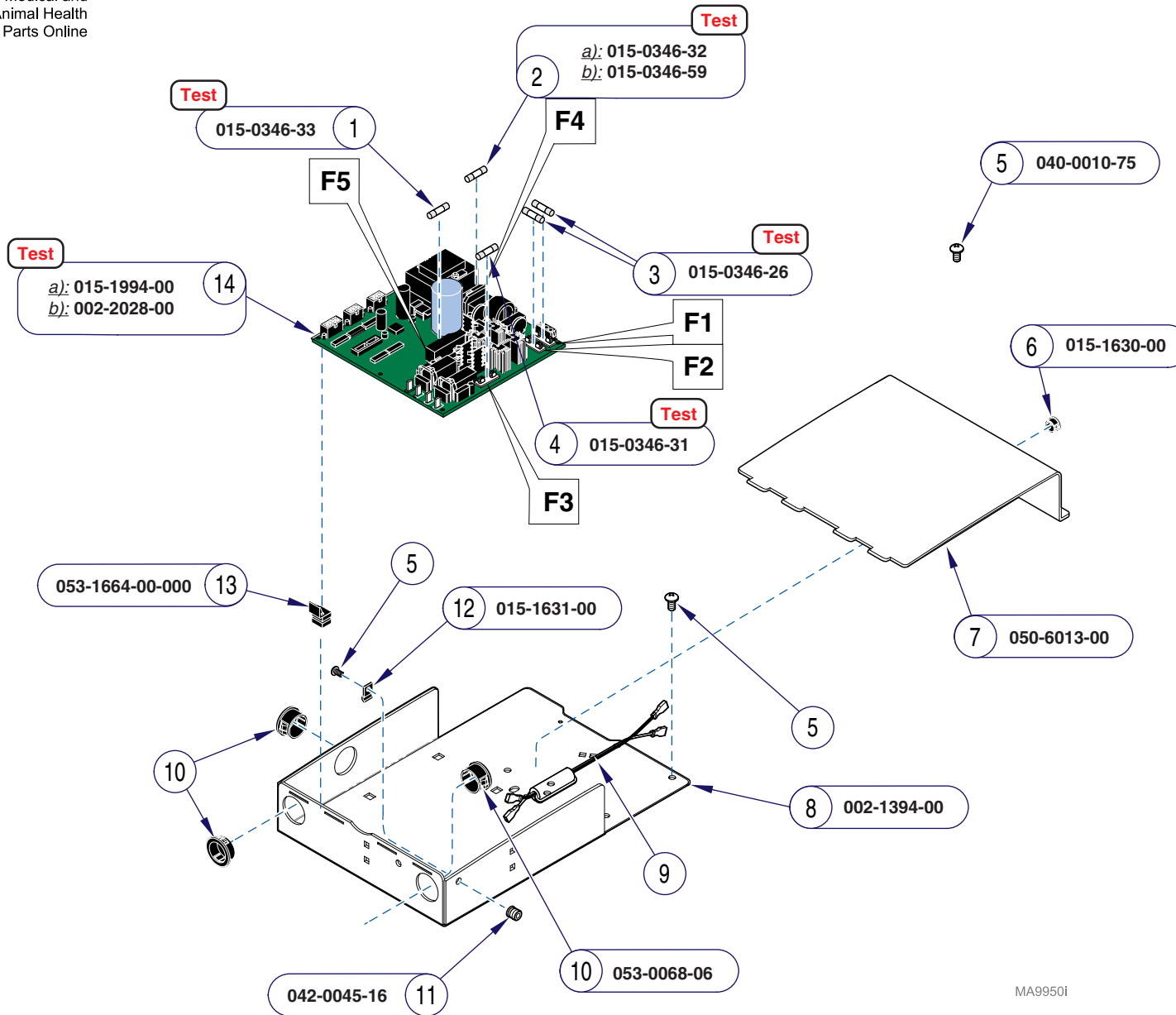
222 (all)
All

622 (all)
All

Refer To:

Fuse **Test** B-3
Main PC Board **Test** B-21
Section D - Wiring Diagrams D-1

Go To Page:



Item	Description	Qty.
1	Slo-blo Fuse (4 amp, 250v, .25" x 1.25") ...	1
2	a) Slo-blo Fuse (.18 A, 250v, .25" x 1.25")	1
	b) Slo-blo Fuse (Export) (.30 A, 250v, .25" x 1.25")	1
3	Slo-blo Fuse (10 amp, 250v, .25" x 1.25") .	2
4	Slo-blo Fuse (5 amp, 250v, .25" x 1.25") ...	1
5	Screw (10-24 x .37")	5
6	Split Grommet (older models only)	1
7	Cover (item 6 - not required)	1
8	Control Panel Housing Kit	1
9	Refer to: Section D - Wiring Diagrams	Ref
10	Bushing	3
11	Nutsert	2
12	Cable Clamp	1
13	PC Board Standoff	7
14	a) PC Board (2 function)	1
	b) PC Board (2 function) (Export)	1
	(export PC Board includes item #13)	

Always Specify Model & Serial Number

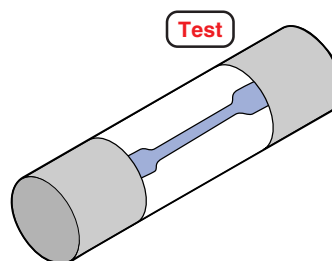
Models:
Serial Numbers:

223 (all)
All

623 (all)
All

PC Board Enclosure
(Power Back Models)

E-24



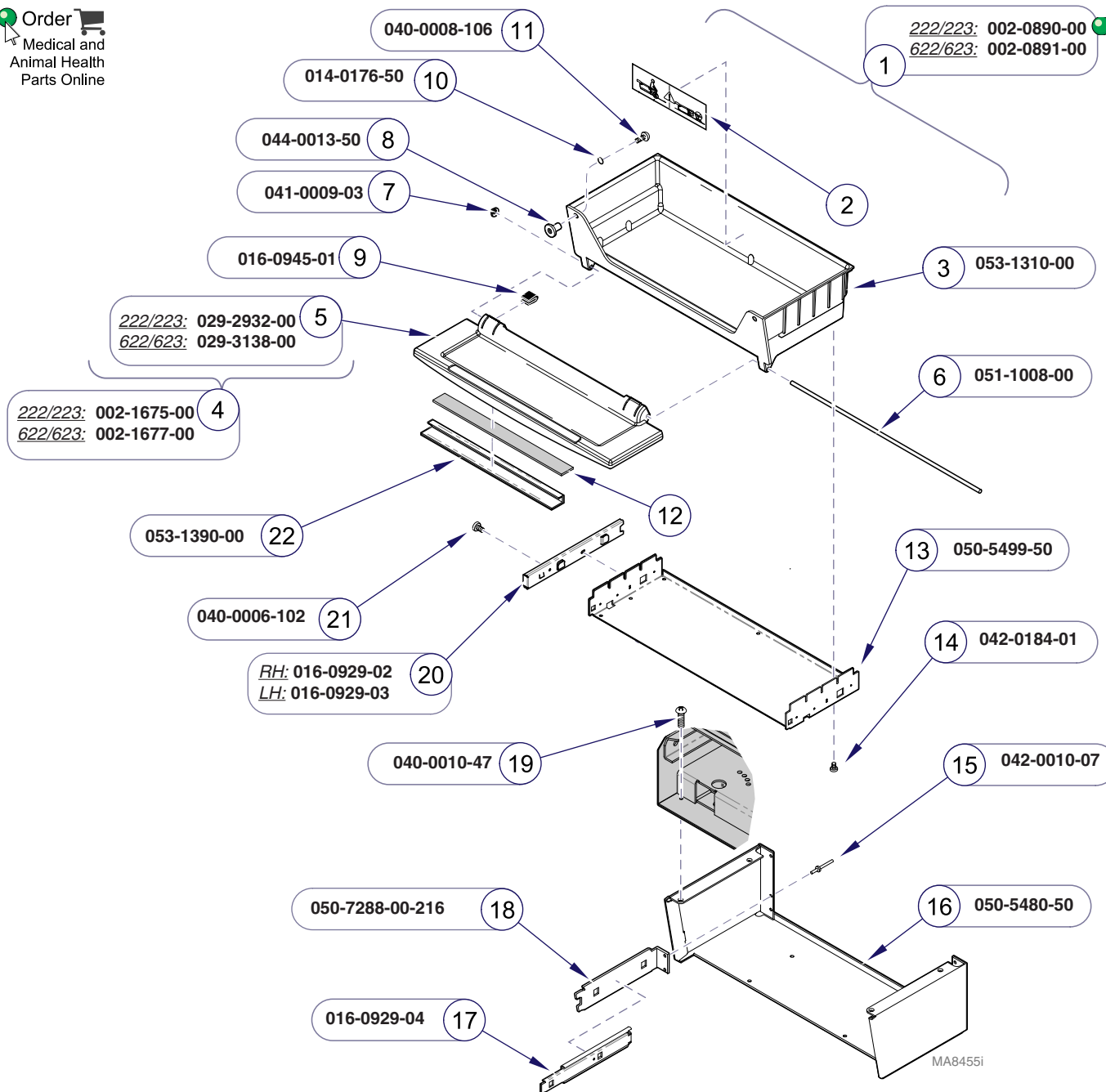
Fuse:	Location: (See next page)	Functions affected	Rating:	Midmark Part Number:
Primary Fuses (2)	Main PC Board [F1 & F2]	All	10A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-26
Base Motor Fuse	Main PC Board [F3]	Base Up / Base Down	5A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-31
Transformer Fuse	Main PC Board [F4]	All	187mA, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-32
Transformer Fuse (230 Volt)	Main PC Board [F4]	All	300mA, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-59
Back Motor Fuse (223 / 623 <u>only</u>)	Main PC Board [F5]	Back Up / Back Down	4A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-33
Drawer Heater Fuses (2) (optional)	Distribution Board	Drawer Heater	800mA, 250V, Slo-Blo, 5 x 20 mm	015-0346-25
Upholstery Heater Fuses (2) (optional)	Upholstery PC Board	Upholstery Heater	1/2 A, 250V, Slo-Blo, 1/4 x 1-1/4 in.	015-0346-05
230 Volt Transformer Fuses (2) 222 (-009, -010) / 223 (-009, -010) 622 (-003, -004) / 623 (-003, -004)	IEC Inlet	All	4A, 250V, Slo-Blo, 5 x 20 mm Interrupt Rating 40A @ 250V	015-0346-01
230 Volt Transformer Fuses (2) 222 (-017) / 623 (-009, -010, -011)	IEC Inlet	All	4A, 250V, Slo-Blo, 5 x 20 mm High Breaking Capacity	015-0346-51
Isolation Transformer Fuses (2) (Canadian models only)	IEC Inlet	All	6.3 A, 250V, Slo-Blo, 5 x 20 mm	015-0346-20

Always Specify Model & Serial Number

Fuses

Models:
Serial Numbers:

All
All



Refer To:

Upholstery - Midmark:

Premium E-8*

Ultra Premium E-9*

Label Location E-38

* multiple pages due to model / serial # break

Go To Page:

Item	Description	Qty.
1	Exam Assistant® Drawer Assembly (includes items 2 thru 11)	1
2	• Refer to: "Label Location"	Ref
3	• Drawer	1
4	• Drawer Front & Hardware Kit (includes items 5 thru 8)	1
5	•• Drawer Front Assembly	1
6	•• Pivot Rod	1
7	•• Push Nut	2
8	• Nut	2
9	• Edge Trim	2
10	• O-ring (early models only - not required) ..	2
11	• Screw (#8 x 32 x 1/4")	2
12	Color Insert - 622/623 only Refer to: Upholstery - Midmark	Ref
13	Drawer Heat Sink	1
14	Screw (M4-1.79 x 12mm)	5
15	Pop Rivet	4
16	Drawer Housing	1
17	Outer and Middle Slide Assy.	2
18	Drawer Slide Bracket	2
19	Screw	4
20	Inner Slide (RH shown)	2
21	Item #21 used only on models w/drawer htr. Screw (#6-32 x 3/16" Phillips)	1
22	Clear Drawer Pull - 622/623 only	1

Always Specify Model & Serial Number

Models:
Serial Numbers:

222 (all)
V2200 thru V1308218

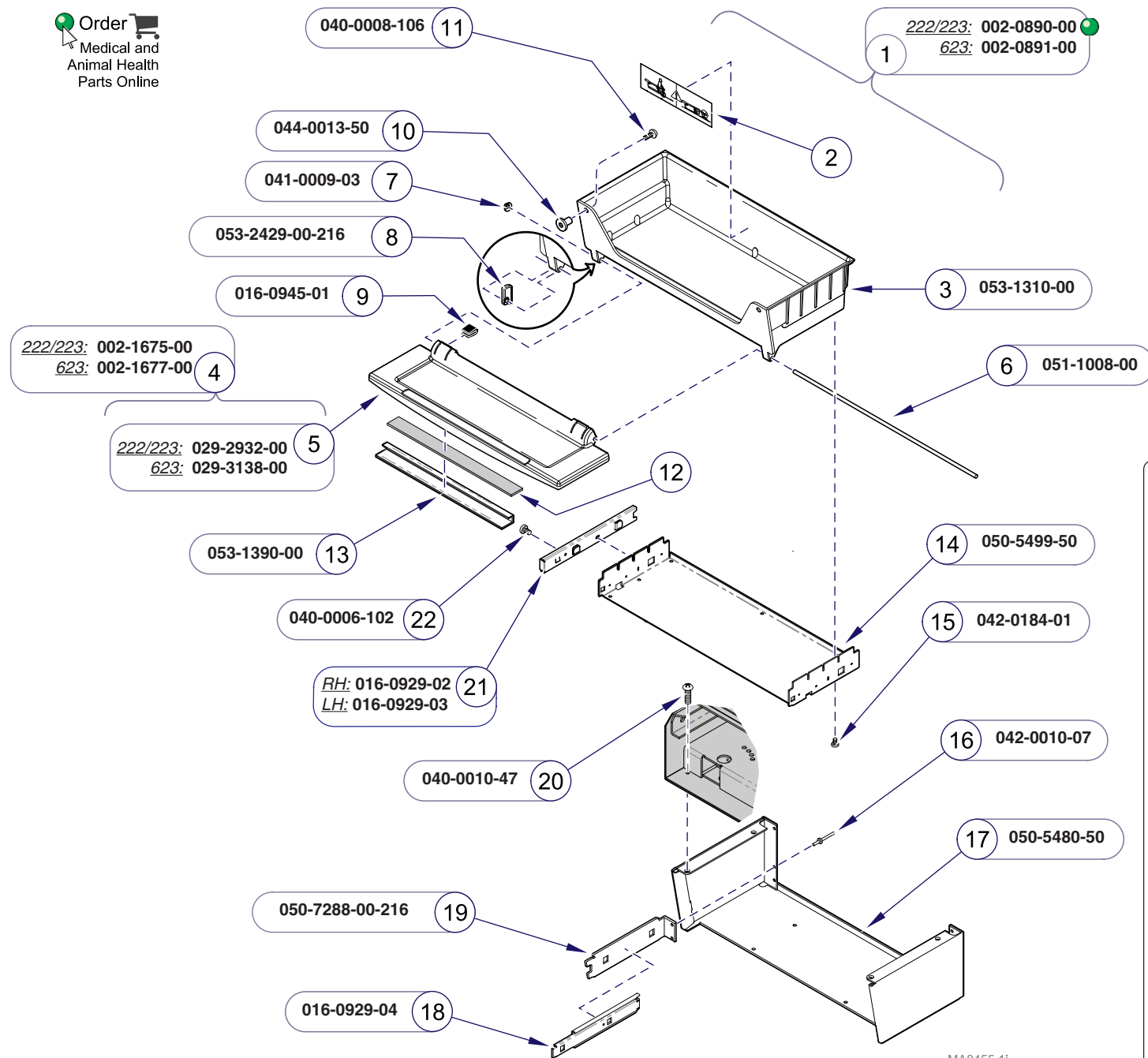
223 (all)
V2200 thru V1308233

622 (all)
V2200 Thru Present

623 (all)
V2200 thru V1321171

**Exam Assistant®
Drawer Assembly**

E-26



MA8455.1i

Item	Description	Qty.
1	Exam Assistant® Drawer Assembly (includes items 2 thru 11)	1
2	• Refer to: "Label Location"	Ref
3	• Drawer	1
4	• Drawer Front & Hardware Kit (includes items 5 thru 8)	1
5	•• Drawer Front Assembly	1
6	•• Pivot Rod	1
7	•• Push Nut	2
8	•• Fold Down Drawer Stop	2
9	• Edge Trim	2
10	• Nut	2
11	• Screw (#8 x 32 x 1/4")	2
12	Color Insert - 622/623 only Refer to: Upholstery - Midmark	Ref
13	Clear Drawer Pull - 622/623 only	1
14	Drawer Heat Sink	1
15	Screw (M4-1.79 x 12mm)	5
16	Pop Rivet	4
17	Drawer Housing	1
18	Inner Slide (RH shown)	2
19	Drawer Slide Bracket	2
20	Screw	4
21	Outer and Middle Slide Assy.	2
22	Item #22 used only on models w/drawer htr. Screw (#6-32 x 3/16" Phillips)	1

Always Specify Model & Serial Number

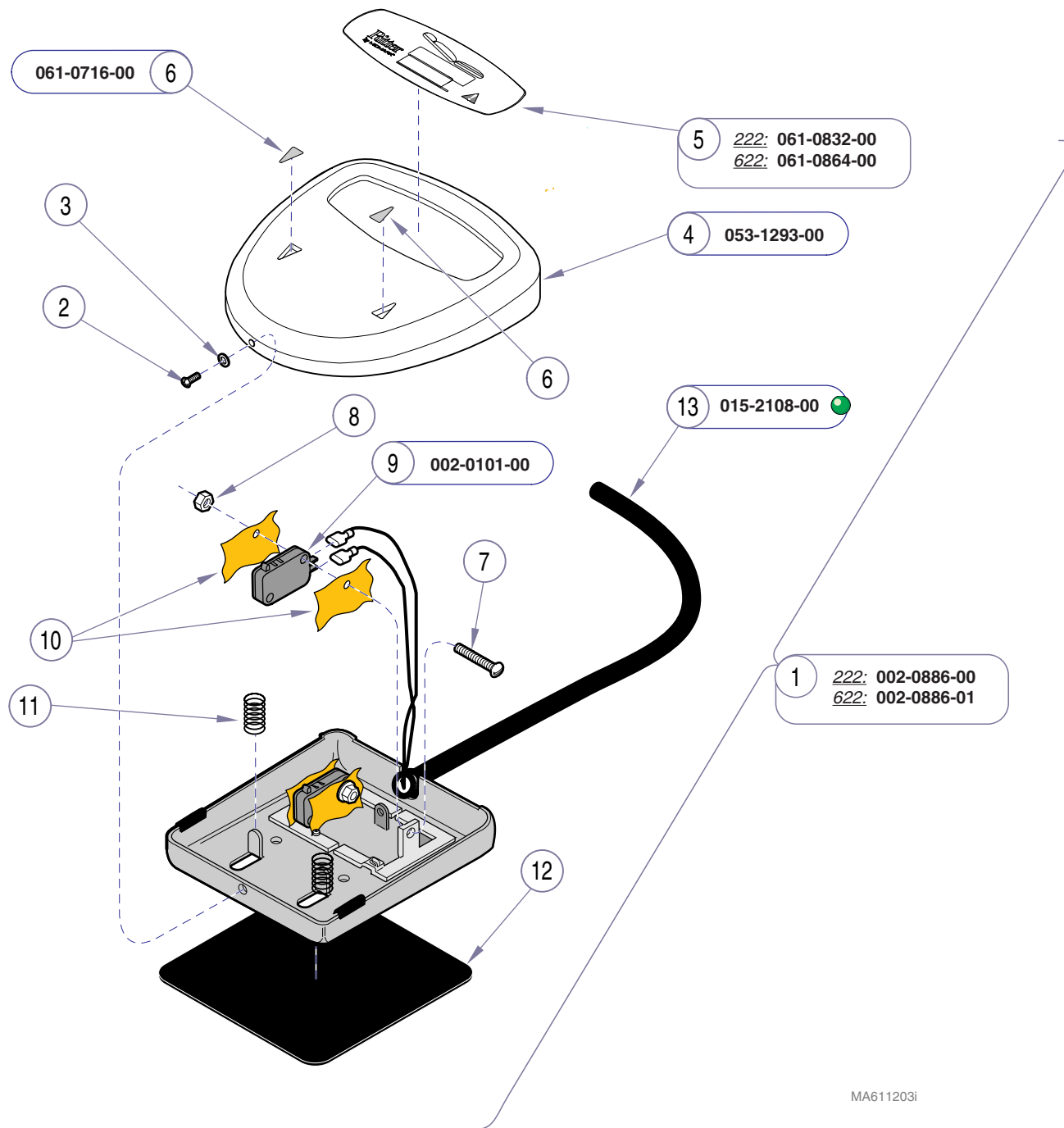
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Refer To:

Foot Switch **Test** - 222/622 B-6

Go To Page:

Order 
Medical and
Animal Health
Parts Online



MA611203i

Item	Description	Qty.
1	Single Function Foot Control (incl. items 2 thru 13)	1
2	• Screw (not available)	1
3	• Washer (not available)	1
4	• Footswitch Cover	1
5	• Label	1
6	• Up / Down Arrow	2
7	• Screw (not available)	2
8	• Nut (not available)	2
9	• Foot Control Switch	2
10	• Insulator (not available)	2
11	• Spring (not available)	2
12	• Rubber Pad (not available)	1
13	• Cable	1

Always Specify Model & Serial Number



1 Not available*

Always Specify Model & Serial Number

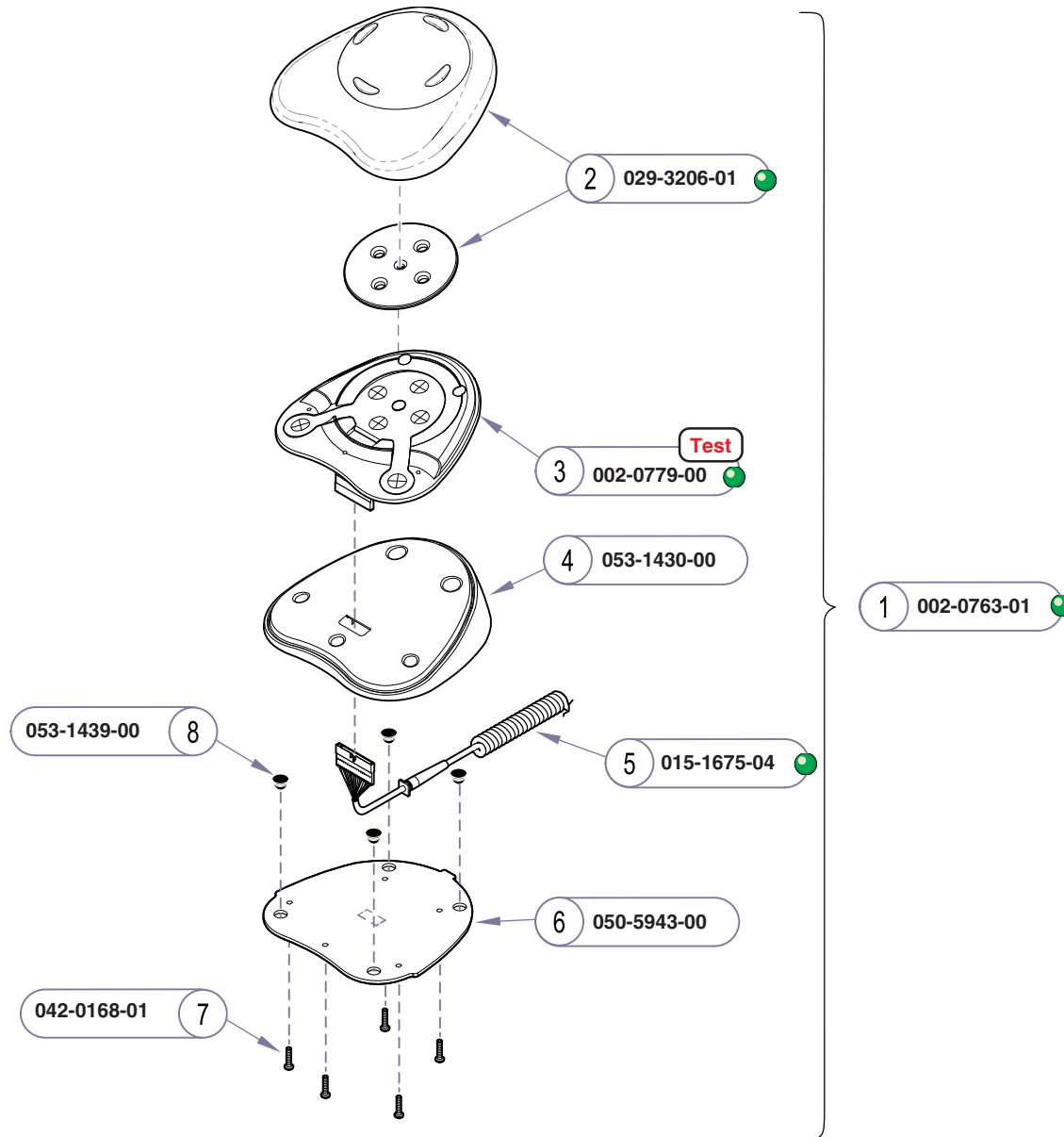
Models:

223 (-001 thru -014)

Serial Numbers:	SC1000 thru present SE1000 thru present V2200 thru V3302
-----------------	--

SD1000 thru present
SF1000 thru present

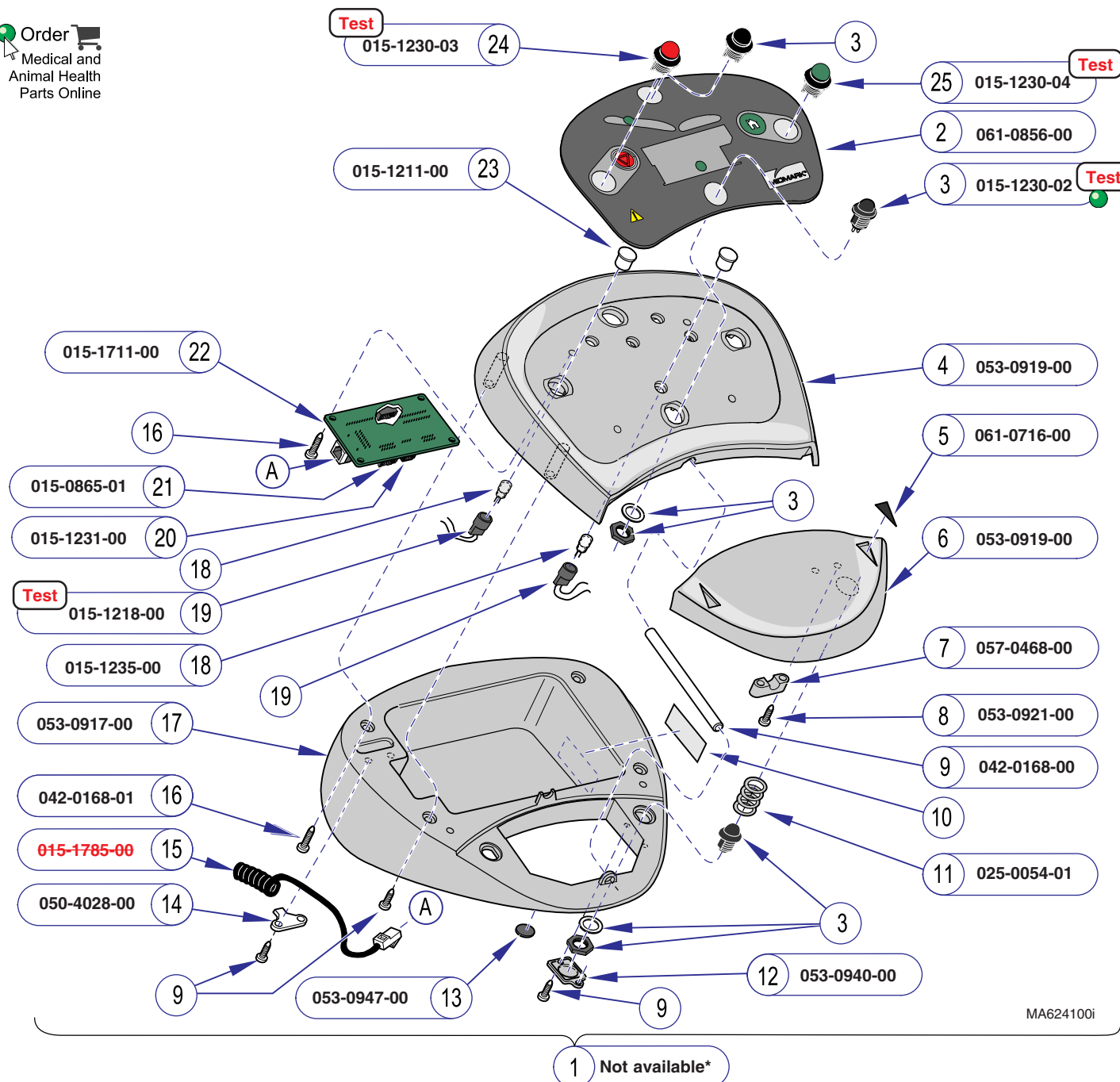
E-28



Item	Description	Qty.
1	Two Function Foot Control (incl. items 2 thru 8)	1
2	• Keypad	1
3	• Switch Membrane Assembly	1
4	• Base	1
5	• Cord	1
6	• Base Plate	1
7	• Screw	5
8	• Stem Bumper	4

Always Specify Model & Serial Number

MA659300i



**This style foot control is no longer available. Subsequent version(s) are compatible.
Refer to following page(s).*

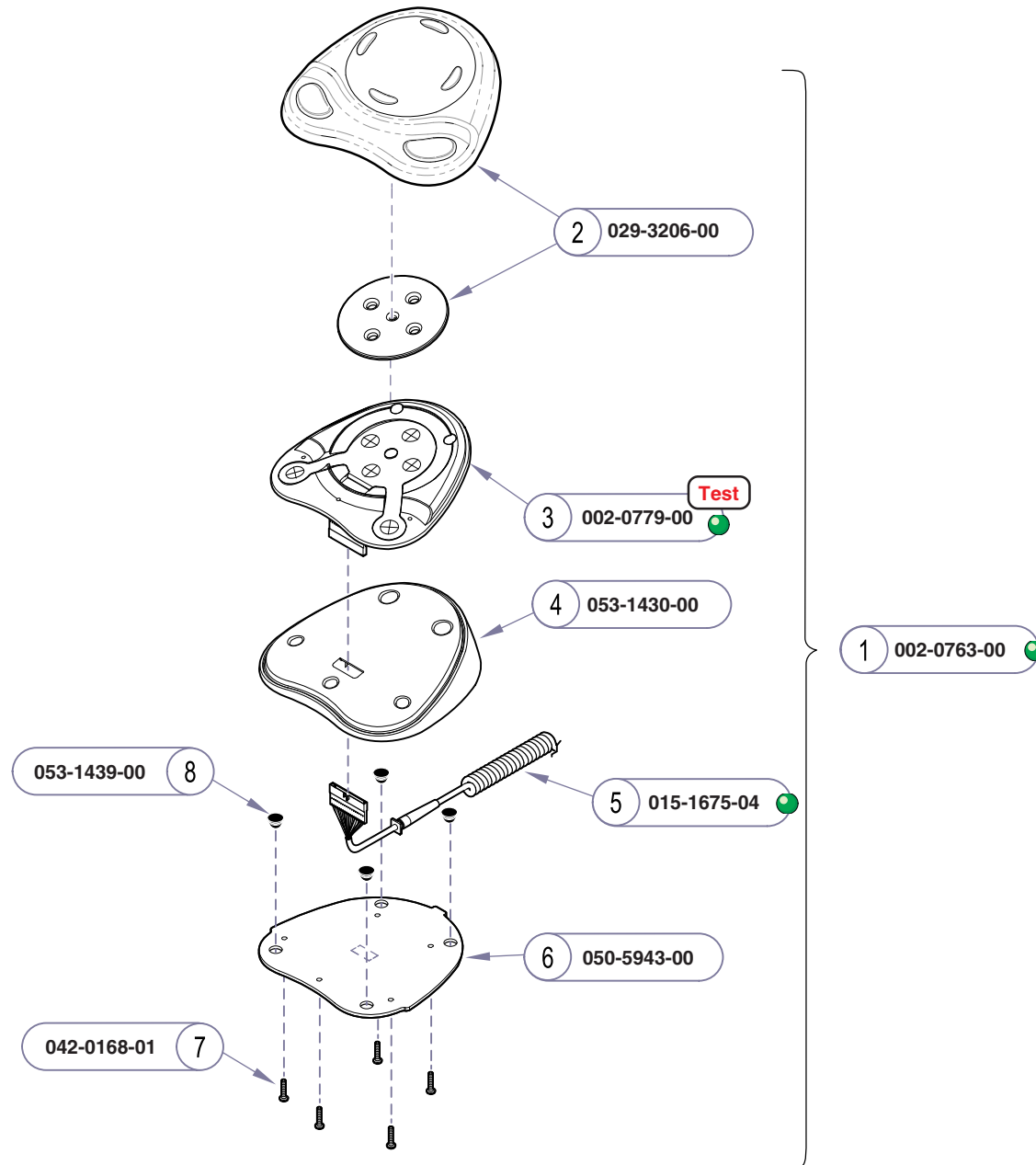
Item	Description	Qty.
1	Two Function Foot Control	1
	(includes items 2 thru 25)	
2	• Footswitch Label	1
3	• Switch Assembly (7" leads)	4
	(Black cap: 015-1205-03)	
4	• Foot Control Top	1
5	• Up/Down Labels	2
6	• Foot Control Pedal	1
7	• Pivot Shaft	1
8	• Pedal Cap	2
9	• Screw (metric 3.5 x 10mm)	12
10	• Serial Number Label (not available)	1
11	• Spring	2
12	• Switch Cover	2
13	• Stem Bumper	8
14	• Strain Relief	1
15	• Retractable Cord	1
16	• Screw (metric 3.5 x 16mm)	6
17	• Foot Control Base	1
18	• Green LED (w/ leads)	2
19	• Connector Assembly	2
20	• Receptacle Housing (4 position)	2
21	• Receptacle Housing (6 position)	2
22	• Two Function Control Board	1
23	• Clear Lens	2
24	• Switch Assembly (5" leads)	1
	(Red cap: 015-1205-04)	
25	• Switch Assembly (5" leads)	1
	(Green cap: 015-1205-05)	

Always Specify Model & Serial Number

Models: 623 (-001 thru -006)
Serial Numbers: SL1000 thru present SM1000 thru present
V2200 thru V3302

Foot Control
(623)

E-29

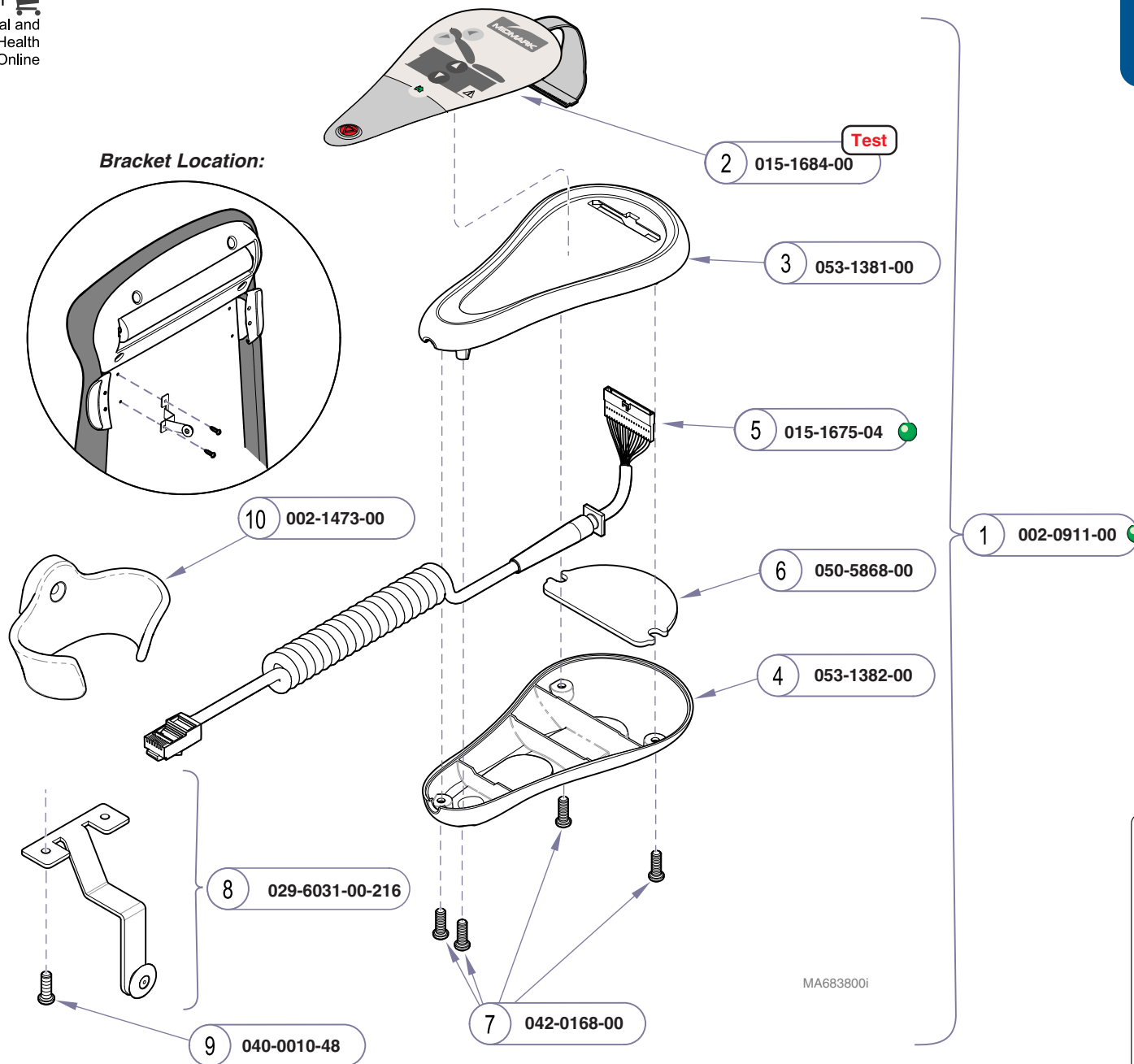


MA676400i

Item	Description	Qty.
1	Foot Control Assembly (incl. items 2 thru 8)	1
2	• Keypad	1
3	• Switch Membrane Assembly	1
4	• Base	1
5	• Cord	1
6	• Base Plate	1
7	• Screw	5
8	• Stem Bumper	4

Always Specify Model & Serial Number

Bracket Location:



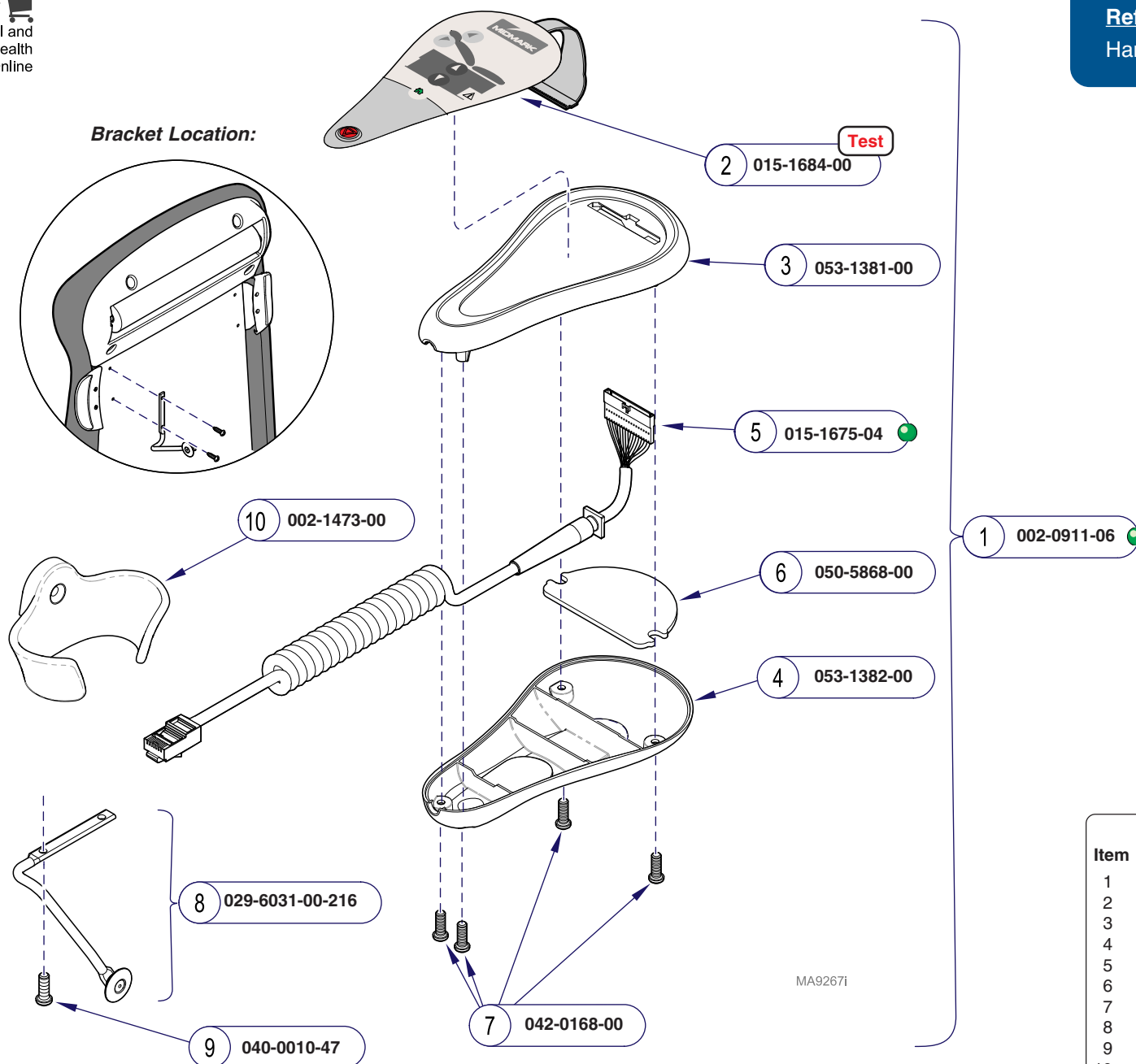
Item	Description	Qty.
1	Hand Control Assy. (incl. items 2 thru 10):	
2	• Touch Pad	
3	• Top Housing	1
4	• Bottom Housing	1
5	• Retractable Cord Assembly	1
6	• Hand Control Weight	1
7	• Screw (3.5 x 10)	4
8	• Mounting Bracket (incl. item 9)	1
9	• • Screw	2
10	• Hand Control Holster	1

Always Specify Model & Serial Number

Models: 623 (-001 thru -006) | 223 (-001 thru -014) [Optional]
Serial Numbers: All | All

**Hand Control &
Mounting Bracket**

E-30



Item	Description	Qty.
1	Hand Control Assy. (incl. items 2 thru 10):	
2	• Touch Pad	
3	• Top Housing	1
4	• Bottom Housing	1
5	• Retractable Cord Assembly	1
6	• Hand Control Weight	1
7	• Screw (3.5 x 10)	4
8	• Mounting Bracket (incl. item 9)	1
9	• • Screw	2
10	• Hand Control Holster	1

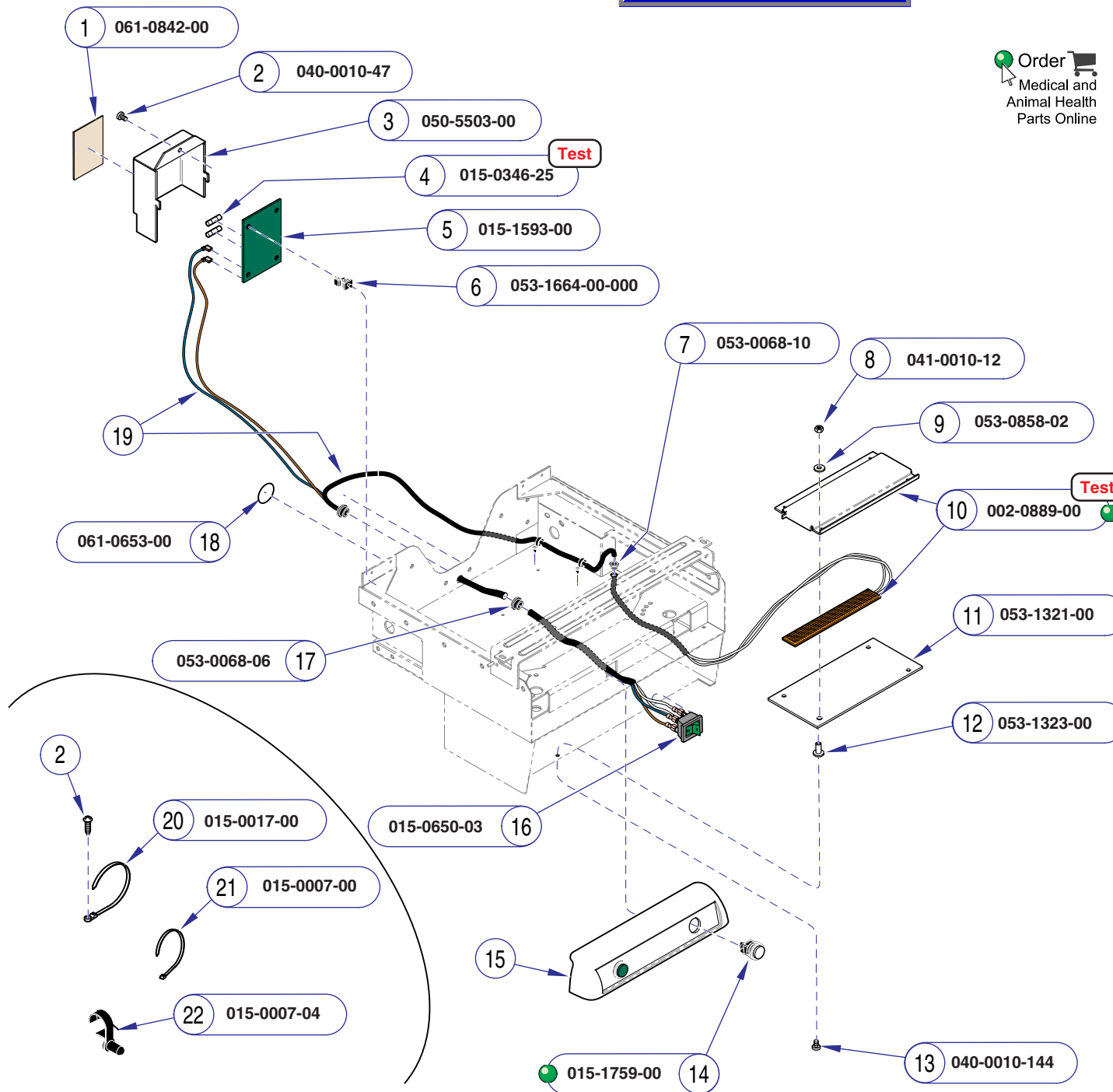
Always Specify Model & Serial Number



Refer To:

Fuse **Test** B-3
 Drawer Heater System **Test** B-25
 Section D - Wiring Diagrams D-1
 Midmark Upperwrap
 & Footrest Shelf E-17

Go To Page:



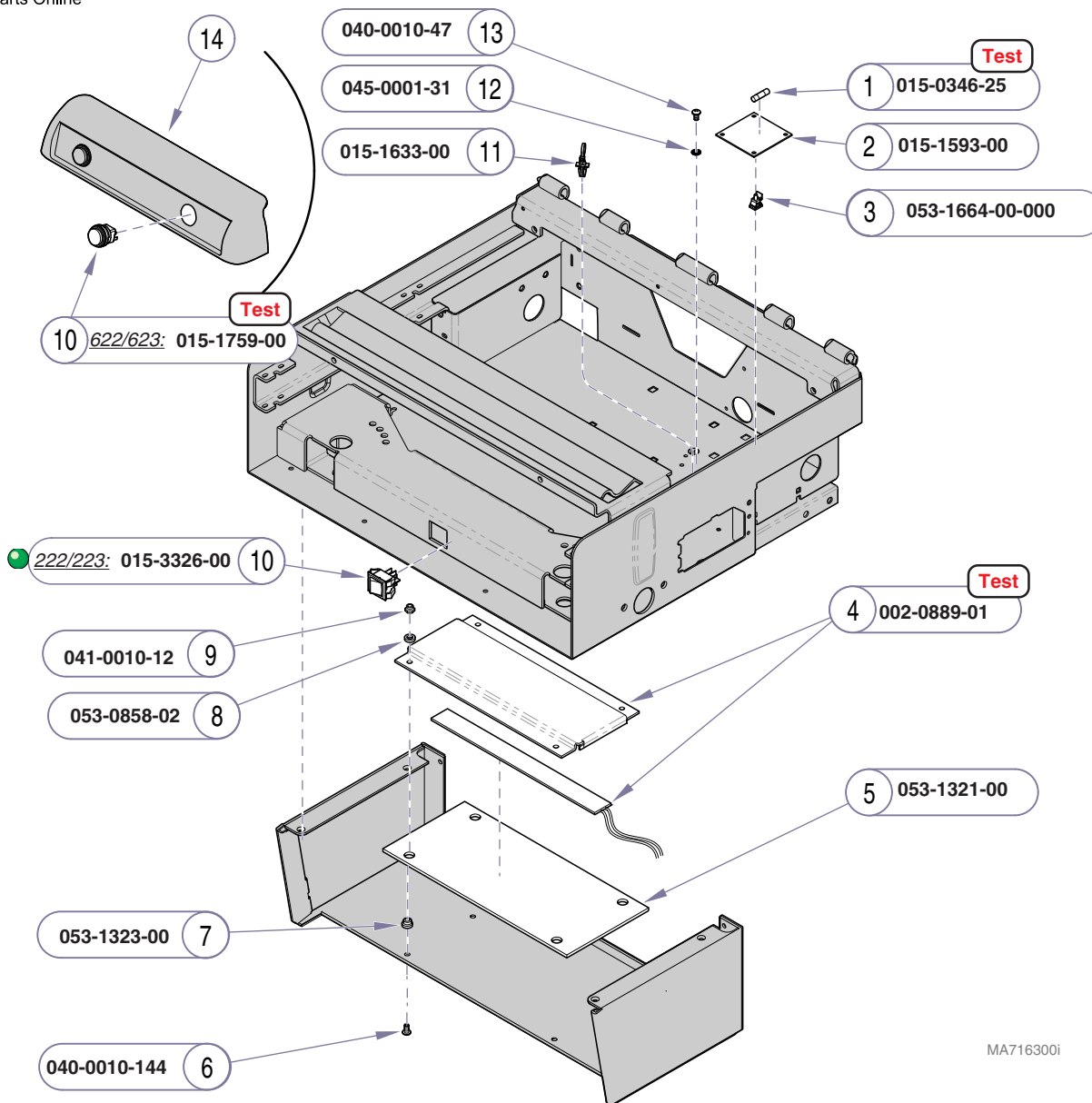
Item	Description	Qty.
1	Fuse Replacement Label	1
2	Screw (#10-24 x .37")	1
3	Distribution Board Cover	1
4	Fuse (800 mA, 250V, Slo-Blo, 5 x 20mm) ...	2
5	Distribution Board	1
6	PC Board Standoff	4
7	Snap Bushing	1
8	Nut (#10-32)	4
9	Nylon Washer	4
10	Heater Plate Assembly	1
11	Heater Insulation	1
12	Nylon Shoulder Washer	4
13	Screw (#10-32 x .5")	1
14	Drawer Htr. Switch / Harness (622/623)	1
15	Refer to: "Midmark Upperwrap & Footrest Shelf"	Ref
16	Drawer Heater Switch (222/223)	1
17	Snap Bushing	2
18	Ground Label	1
19	Refer to: Section D - Wiring Diagrams	Ref
20	Cable Tie (w/ screw hole)	2
21	Cable Tie	1
22	Wrap-N-Tap	8

Always Specify Model & Serial Number

Models: 222 (-003 /-004 /-007 /-008 /-010) 223 (-003 /-004 /-007 /-008 /-010) 622 (-002 & -004) 623 (-002 & -004)
Serial Numbers: All All All All

Drawer Heater
System

E-31



MA716300i

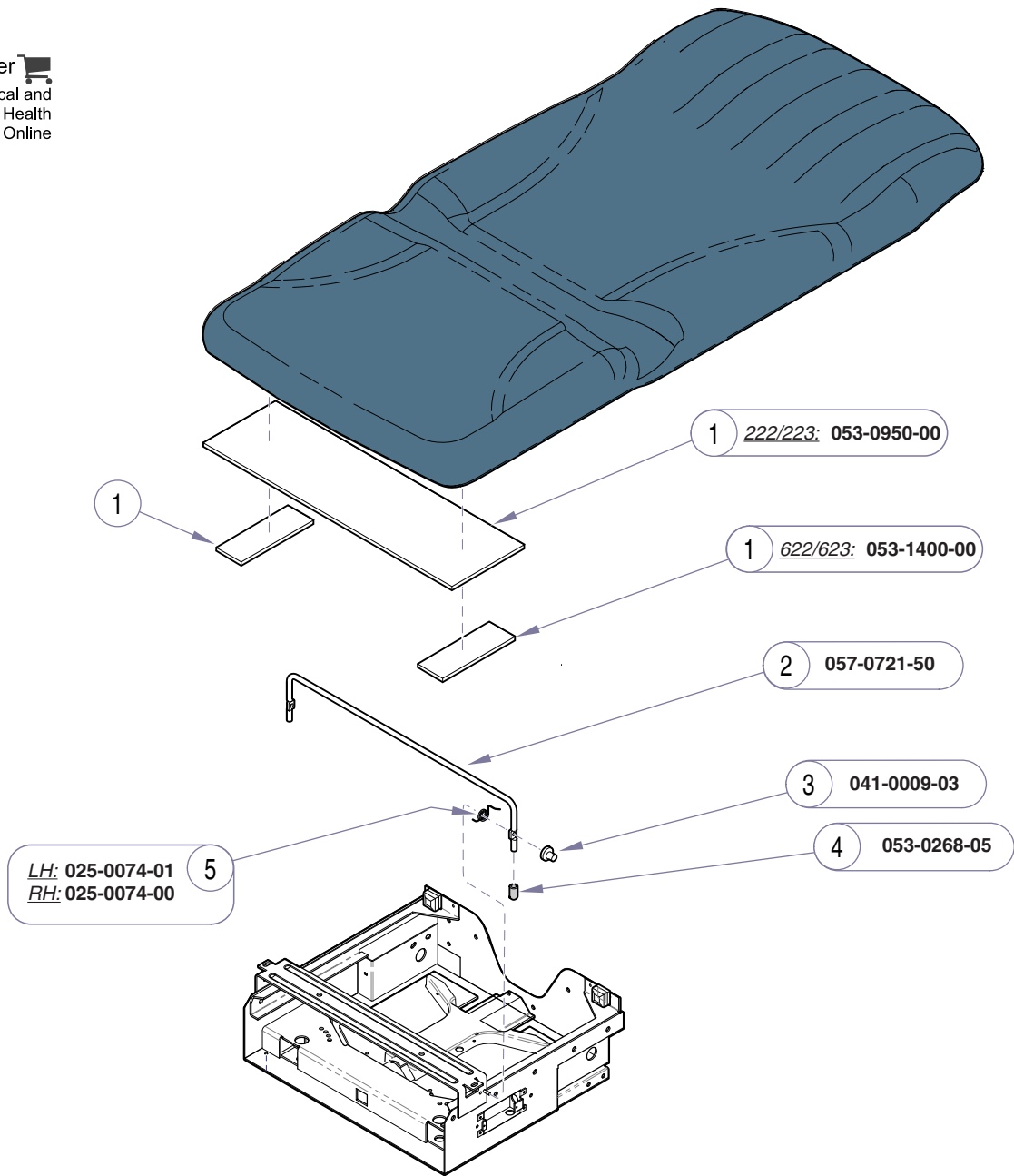
Refer To:

Go To Page:

Fuse **Test** B-3
Drawer Heater System **Test** B-25
Section D - Wiring Diagrams D-1
Midmark Upperwrap
& Footrest Shelf E-17.1

Item	Description	Qty.
1	• Fuse (800 mA, 250V, Slo-Blo, 5 x 20mm)	2
2	• Distribution Board	1
3	• PC Board Standoff	4
4	• Heater Plate Assembly	1
5	• Heater Insulation	1
6	• Screw (10-32x 1/2")	4
7	• Nylon Shoulder Washer	4
8	• Nylon Washer	4
9	• Nylon Nut	4
10	• Drawer Heater Switch with Harness	1
11	• Wrap-N-Tap	3
12	• Lockwasher (#10)	1
13	• Screw (#10-24 x 3/8")	1
14	Refer to: Midmark Upperwrap & Footrest Shelf"	Ref

Always Specify Model & Serial Number



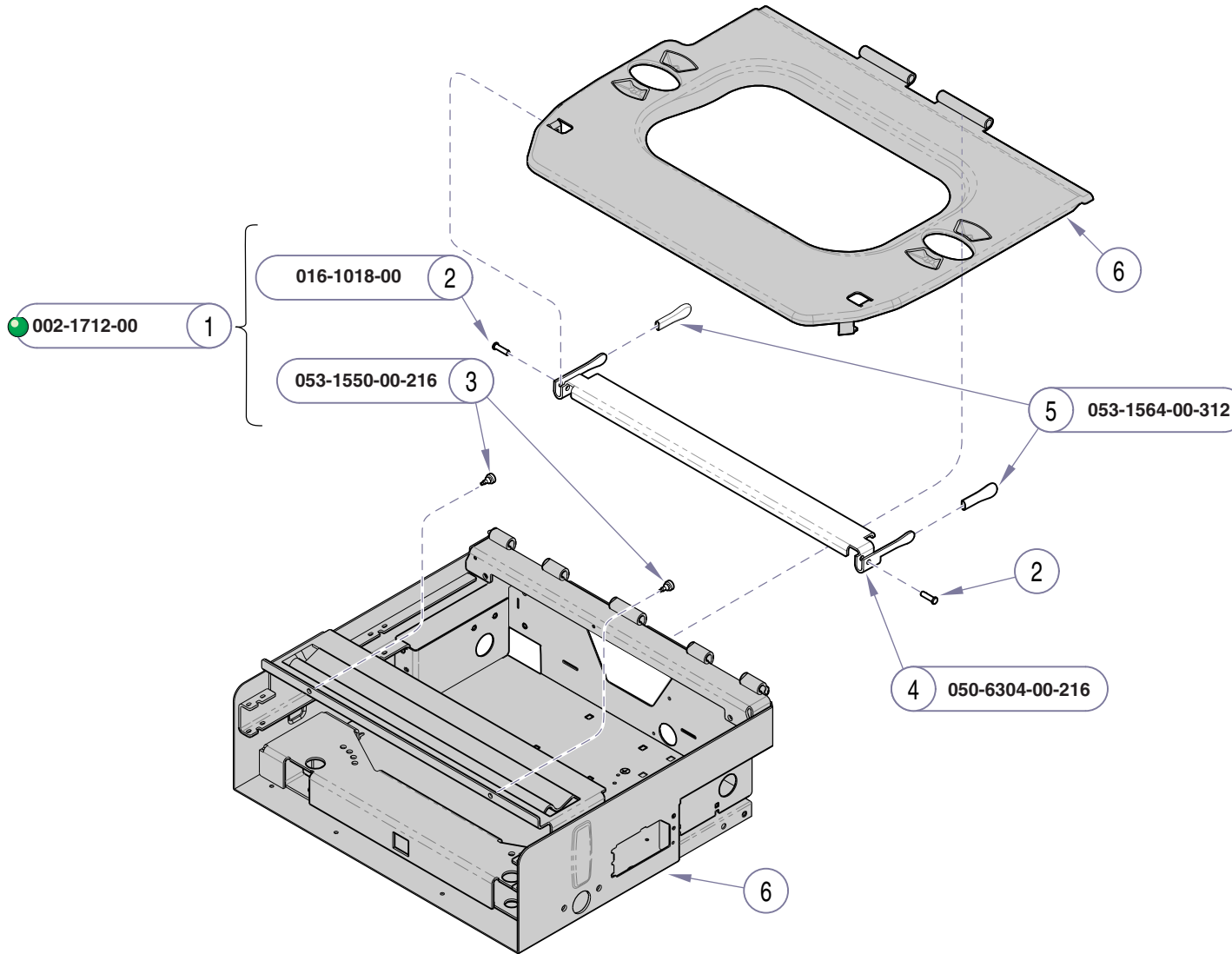
MA612201i

Item	Description	Qty.
1	• Scuff Plate	1 / 2
2	• Pelvic Lift	1
3	• Push Nut	2
4	• Vinyl End Cap	2
5	• Pelvic Lift Spring (LH shown)	2

Always Specify Model & Serial Number

Models:	222	223	622	622
Serial Numbers:	(-003 /-004 /-007 thru -010) All	(-003 /-004 /-007 thru -010) All	(-002 /-003 /-004 /-006) All	(-002 /-003 /-004 /-006) All

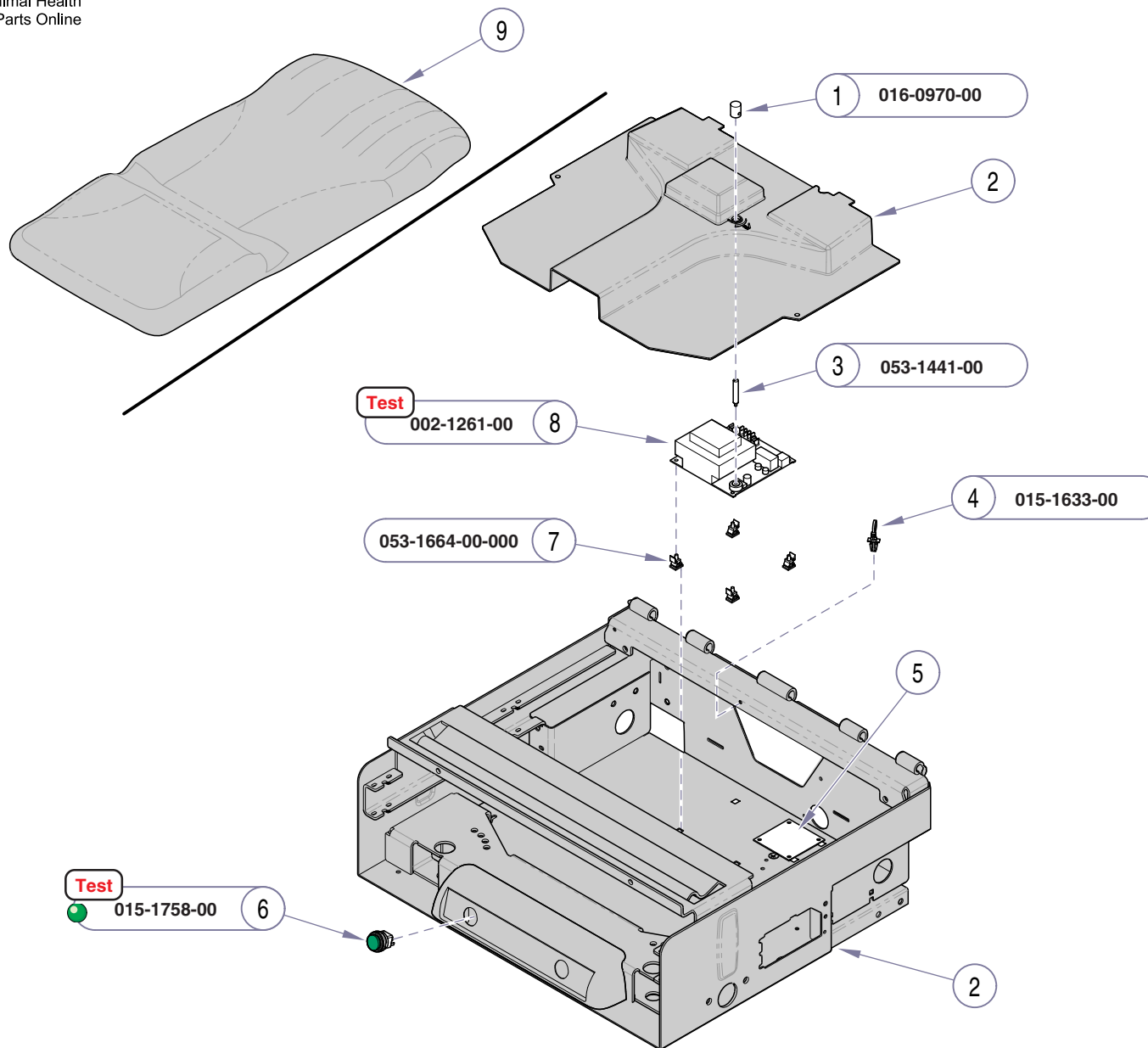
Pelvic Tilt



MA7162001

Item	Description	Qty.
1	Pelvic Tilt Assembly (includes items 2 thru 5).....	1
2	• Pivot Pin	2
3	• Bumper	2
4	• Bracket	1
5	• Handle	2
6	Refer to: "Upperwrap & Footrest Shelf" ... Ref	

Always Specify Model & Serial Number



MA716400i

Refer To:

Go To Page:

Uph. Heater System Test	B-31
Upholstery - Midmark:	
Premium	E-8*
Ultra-Premium	E-9*
Midmark Upperwrap & Footrest Shelf	E-17*
Drawer Heater System	E-31*
* multiple pages due to model / serial # break	

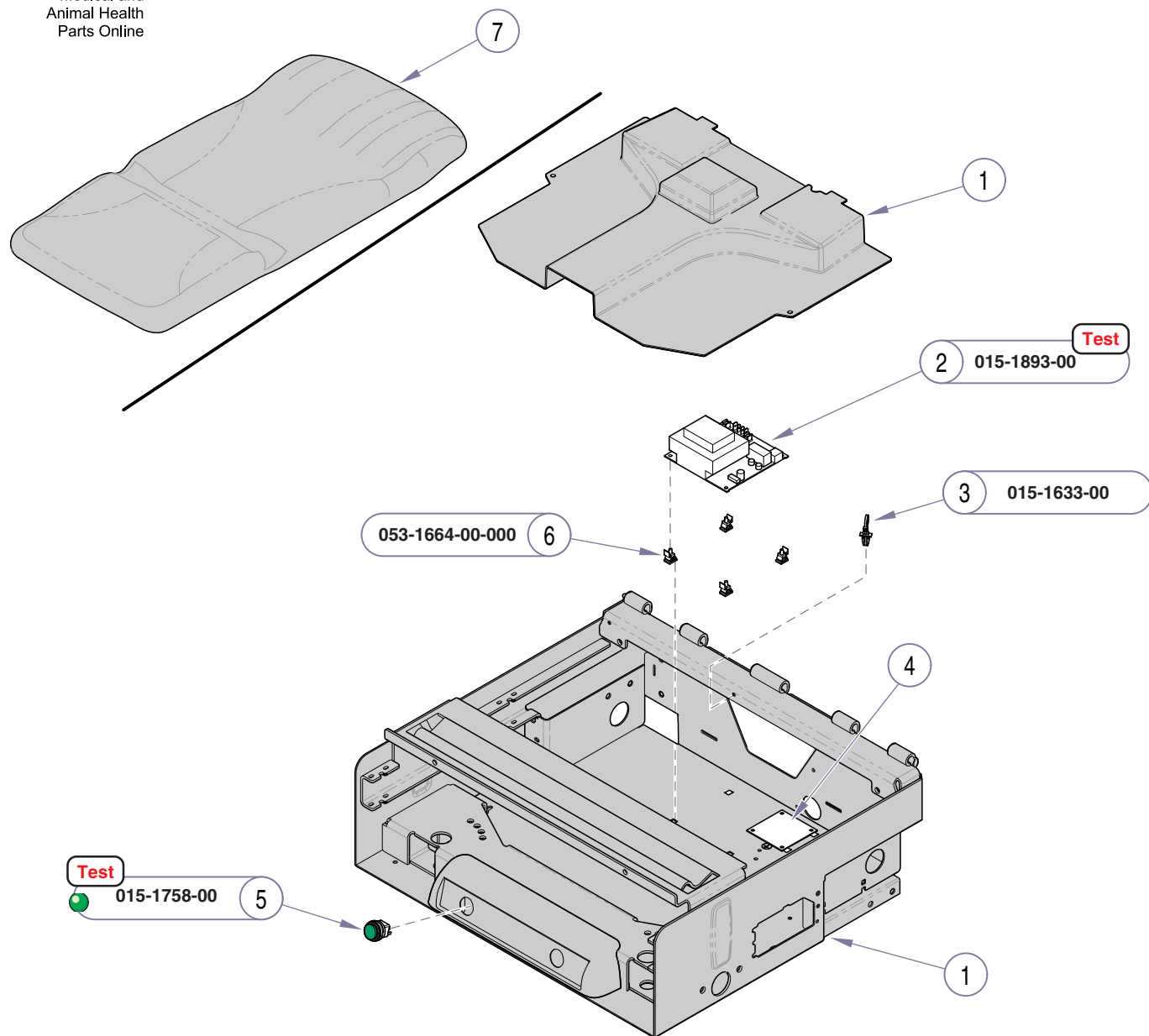
Item	Description	Qty.
1	Adjustment Knob	1
2	Refer to: "Midmark Upperwrap & Footrest Shelf"	Ref
3	Adjustment Shaft	1
4	Wrap-n-Tap Wire Tire	3
5	Refer to: "Drawer Heater System"	Ref.
6	Upholstery Heater Switch (green)	1
7	PC Board Standoffs	4
8	Upholstery Heater PC Board Kit (includes item 2)	1
9	Refer to: "Upholstery - Midmark"	Ref

Always Specify Model & Serial Number

Models: 622 (-002 /-004 /-006 /-008) 623 (-002 /-004 /-006 /-008 /-010)
Serial Numbers: V2200 thru V857486 V2200 thru V857486

**Upholstery Heater
Components**

E-33



MA716401i

Refer To:

Go To Page:

Uph. Heater System	Test		B-31
Upholstery - Midmark:			
Premium			E-8*
Ultra-Premium			E-9*
Midmark Upperwrap			
& Footrest Shelf			E-17*
Drawer Heater System			E-31*
* multiple pages due to model / serial # break			

Item	Description	Qty.
1	Refer to: "Midmark Upperwrap & Footrest Shelf"	Ref
2	Upholstery Heater PC Board	1
3	Wrap-n-Tap Wire Tire	3
4	Refer to: "Drawer Heater System"	Ref.
5	Upholstery Heater Switch (green)	1
6	PC Board Standoffs	4
7	Refer to: "Upholstery - Midmark"	Ref

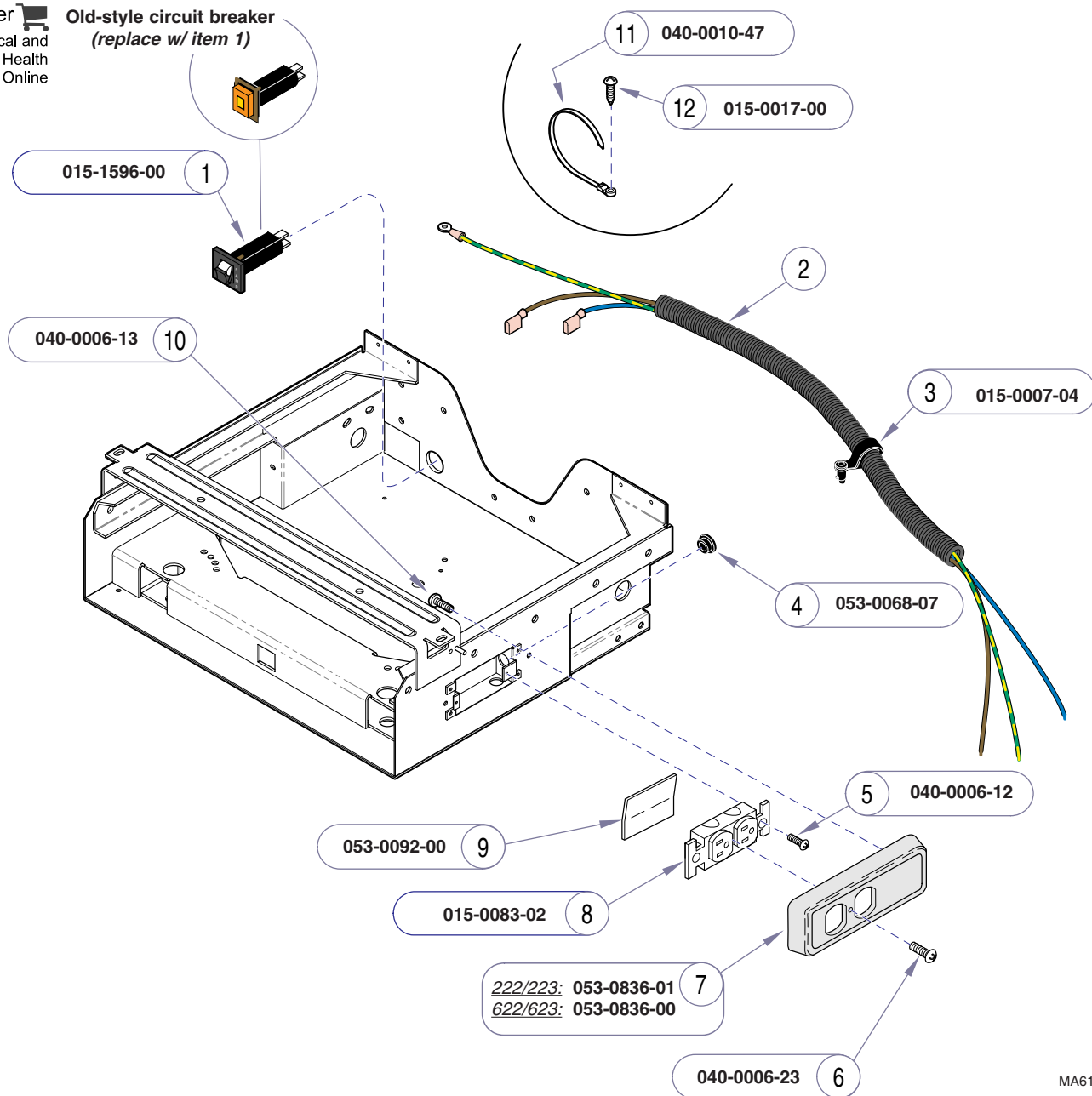
Always Specify Model & Serial Number

**Upholstery Heater
Components**

Models: 622 (-002 /-004 /-006 /-008) 623 (-002 /-004 /-006 /-008 /-010)
Serial Numbers: V857487 thru present V857487 thru present

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Old-style circuit breaker
(replace w/ item 1)



Refer To:

Wiring Diagrams D-1

Go To Page:

Item	Description	Qty.
1	Circuit Breaker* 1	1
	*not used on Canadian models: 222 / 223 (-011 thru -014) 623 / 623 (-005 & -006)	
2	Refer to: Section D - Wiring Diagrams	Ref
3	Wrap-N-Tap	3
4	Snap Bushing	1
5	Screw	2
6	Flat Head Screw (#6-32 x 1")	1
7	Receptacle Cover	1
8	Duplex Receptacle	1
9	Insulator	1
10	Screw (#6-32)	2
11	Cable Tie (w/screw hole)	4
12	Screw (#10-24 x .37")	4

Always Specify Model & Serial Number

MA6121031

Table Receptacle System

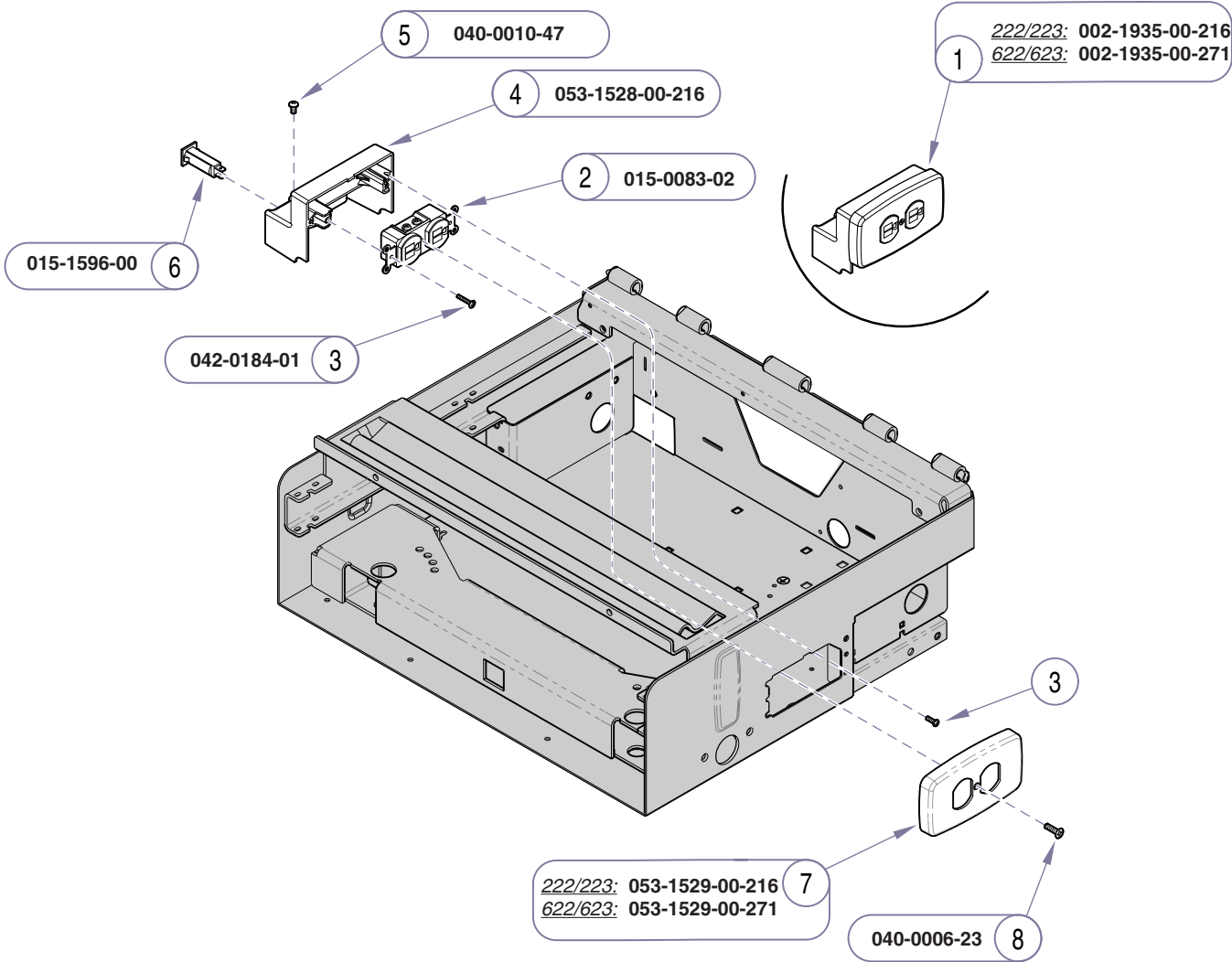
Models:
Serial Numbers:

222
(-002 /-004 /-006 /-008)
(-011 thru -014)
All

223
(-002 /-004 /-006 /-008)
(-011 thru -014)
All

622
(-001 /-002 /-005 /-006)
All

623
(-001 /-002 /-005 /-006)
All



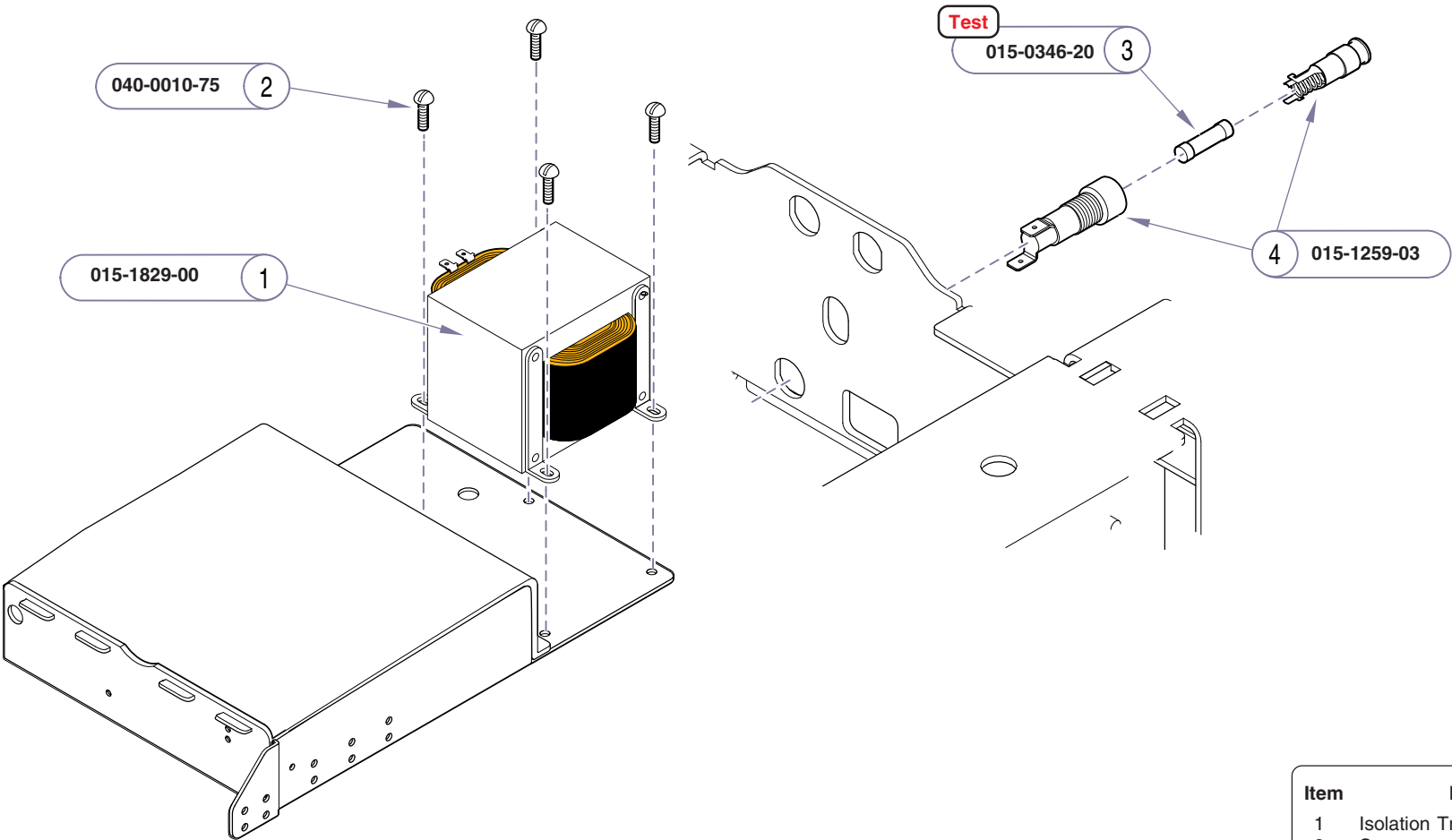
Item	Description	Qty.
1	Table Receptacle Assembly (includes items 2 thru 9)	1
2	• Duplex Receptacle	1
3	• Screw (.138-32 x 1/2")	4
4	• Circuit Breaker Housing	1
5	• Screw (#10-24 x 3/8")	1
6	• Circuit Breaker (5 amp)	2
7	• Receptacle Cover	1
8	• Screw (#6-32 x 1/2")	1

Always Specify Model & Serial Number

MA716100i

Models:	222 (-015 & -016)	223 (-015 & -016)	622 (-007 & -008)	623 (-007 & -008)
Serial Numbers:	All	All	All	All

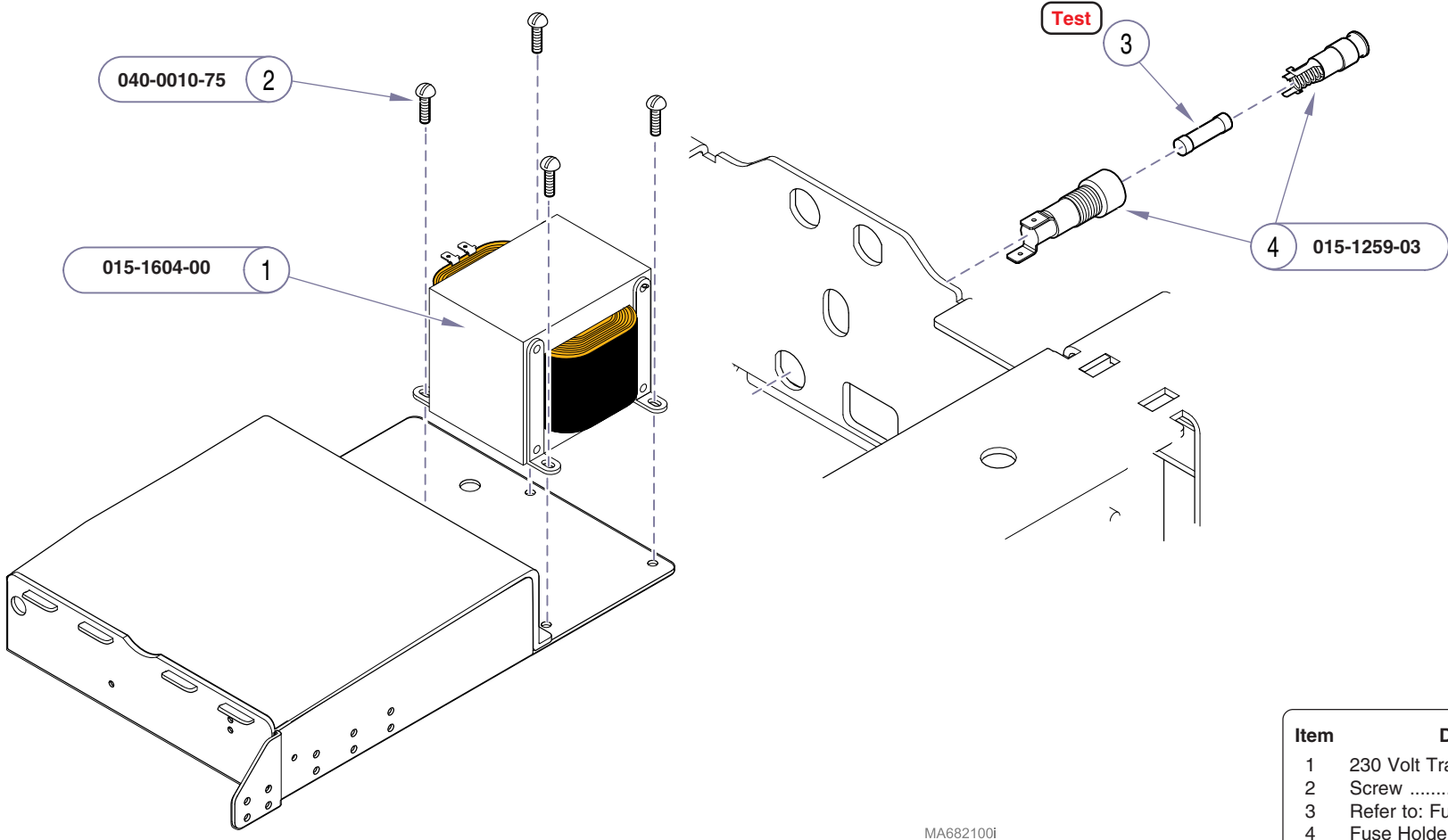
Table Receptacle
System



Item	Description	Qty.
1	Isolation Transformer	1
2	Screw	4
3	Fuse (6.3A, 250V, Slo-Blo, 5 x 20 mm)	1
4	Fuse Holder	2

Always Specify Model & Serial Number

MA682100i



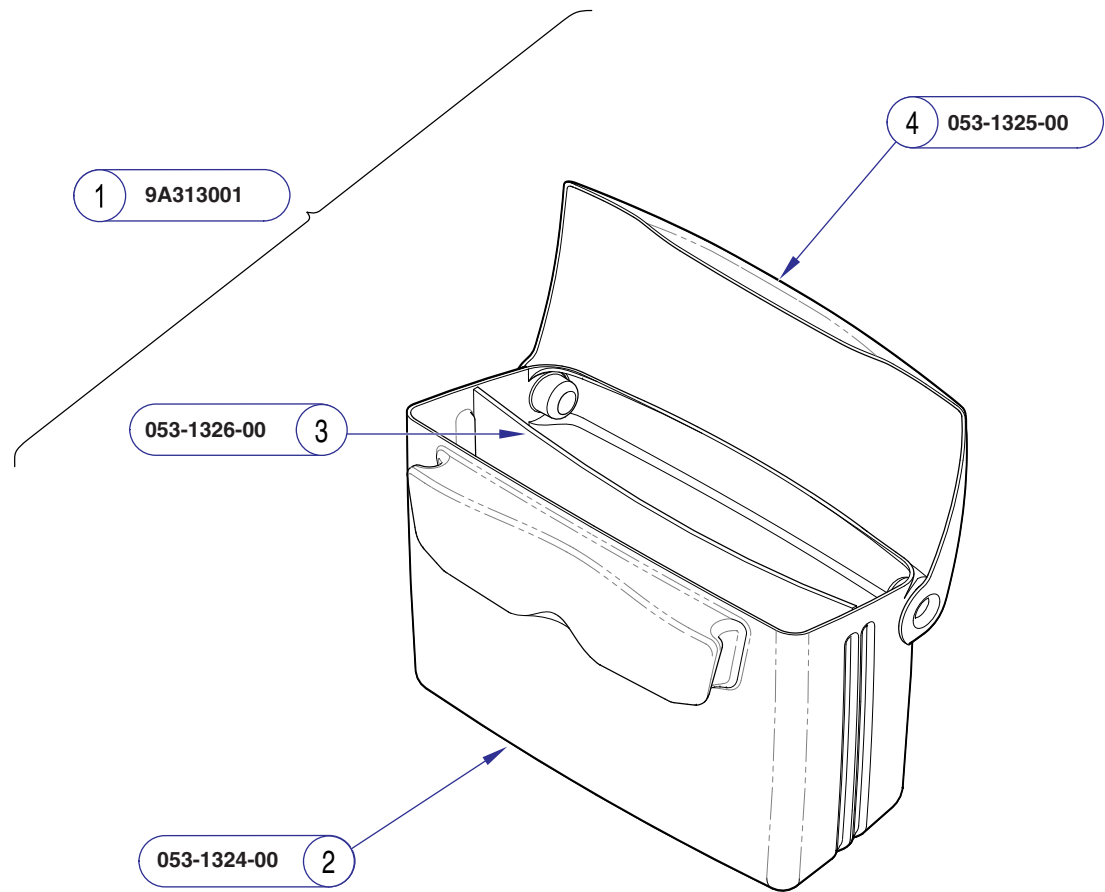
MA682100i

Item	Description	Qty.
1	230 Volt Transformer	1
2	Screw	4
3	Refer to: Fuses	2
4	Fuse Holder	2

Always Specify Model & Serial Number

Models:	222 (-009 /-010 /-017)	223 (-009 & -010)	622 (-003 & -004)	623 (-003 /-004 /-009 /-010 /-011)
Serial Numbers:	All	All	All	All

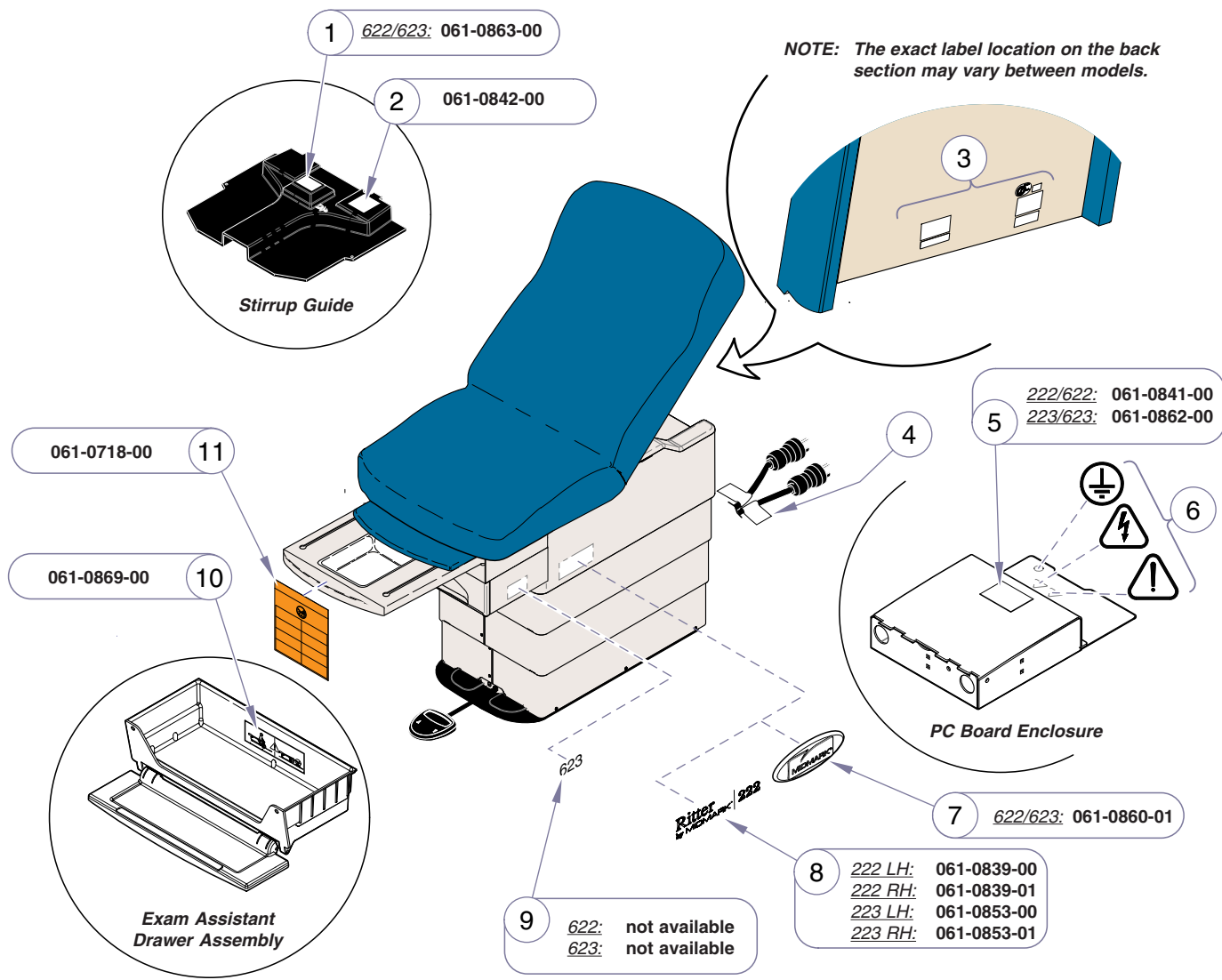
230 Volt Electrical
System



Item	Description	Qty.
1	Storage Pod Assembly	1
	(includes items 2 thru 4)	
2	• Storage Container	1
3	• Storage Divider	1
4	• Storage Container Lid	1

Always Specify Model & Serial Number

MA612900i



Item	Description	Qty.
1	Fuse Label (<i>Uph. Htr. PC Board</i>)	1
2	Fuse Label (<i>Distribution Board</i>)	1
3	Regulatory Certification Label	1
	Duty Cycle Label	1
	Danger Label (<i>w/Table Receptacle only</i>)	1
	Patent Pending Label	1
	Model / Serial Number Label	1
	Patent Number Label	1
4	Power Cord Label	2
5	Fuse Label (<i>Main PC Board</i>)	1
6	Ground Label	1
	Dangerous Voltage Label	1
	Caution Label	1
7	Midmark Nameplate	2
8	Ritter Model Label (<i>LH shown</i>)	2
9	Midmark Model Label (<i>early models only</i>) ...	2
10	Exam Assistant Drawer Label	1
11	Stirrup Lifting Caution Label	1

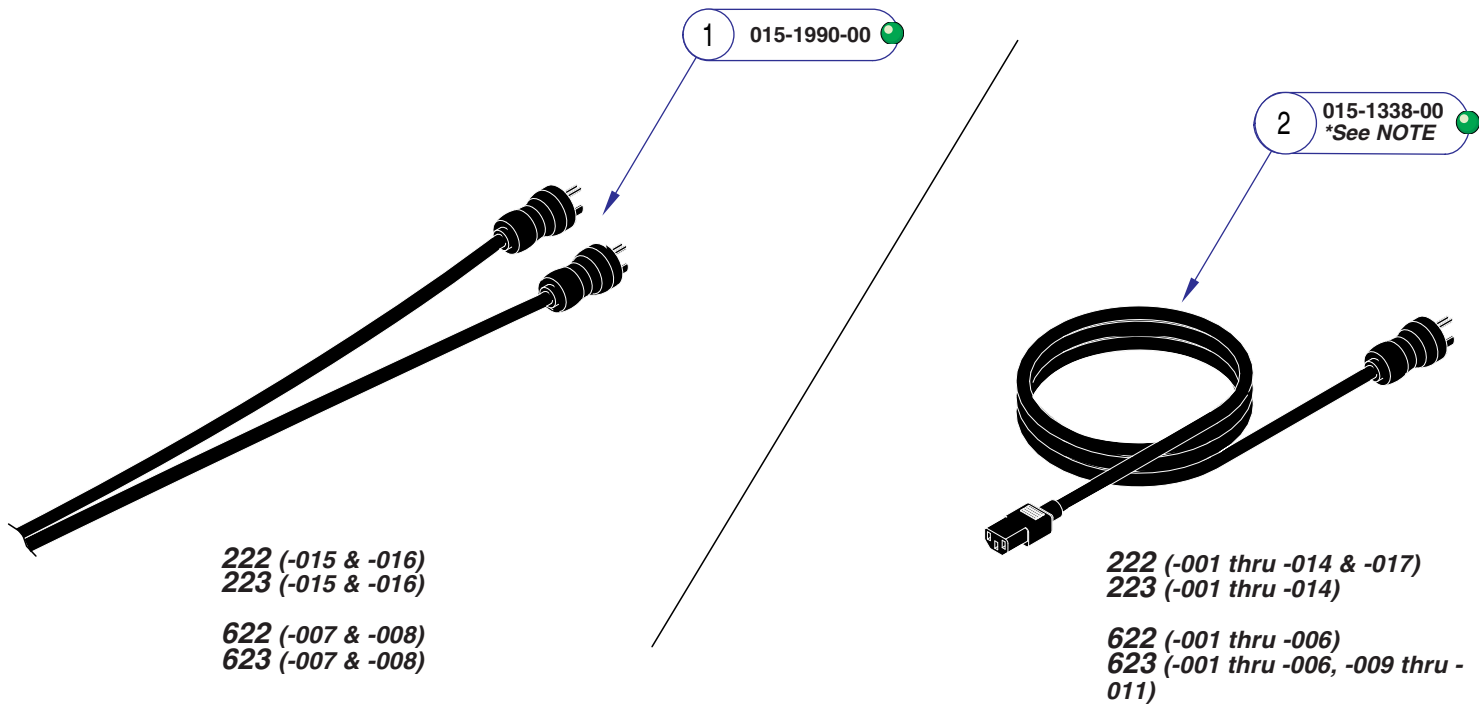
Always Specify Model & Serial Number

MA730900i

Models:
Serial Numbers:

All
All

Label Location



MA8375I

Item	Description	Qty.
1	Power Cord, Conjoined	1
2	Power Cord	1
*NOTE: Export models, 622/623 (-003 /-004) require 9A152 International Cordsets.		
Always Specify Model & Serial Number		

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Versailles, Ohio 45380
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[illegible]

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- 2) *FAX number to send order to:*
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- 3) *All emergency orders must be received @ Midmark by 1:00 pm EST.*
- 4) *All underlined headings should be filled in prior to submittal.*

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pm

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[see note 3]

DEALER P.O. #: _____

ACCOUNT #: _____

<u>MODEL #:</u>	<u>SERIAL #:</u>	<u>SALES ORDER #</u> (if applicable)
------------------------	-------------------------	--

NAME: _____	SHIP TO: _____
ADDRESS: _____	_____
CITY: _____ STATE: _____ ZIP: _____	_____
CONTACT: _____	_____
PHONE: _____	_____
FAX #: _____	_____

[illegible]

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NAME ON CARD _____		SIGNATURE _____

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